



# Chemical Resistance Chart

## Chemical Resistance Data

The information below was gathered from several material and pump suppliers and a careful examination of available published information. We believe the information is fairly accurate. However, since the resistance of metals, plastics and elastomers can be affected by concentration, temperature, presence of other chemicals and other factors, this information should be considered as a general guide rather than an unqualified guarantee. Ultimately, the customer must determine the suitability of the components used in various solutions.

All recommendations assume ambient temperatures unless otherwise noted.

### RATINGS - CHEMICAL EFFECT

A - No effect-Excellent

B - Minor effect-Good

C - Moderate effect-Fair

D - Severe effect-Not recommended

### FOOTNOTES

1. P.V.C. - Satisfactory to 72*f* F.

2. Polypropylene - Satisfactory to 72*f* F.

3. Polypropylene - Satisfactory to 120*f* F.

4. Buna-N - Satisfactory for "O" Rings

5. Polyacetal - Satisfactory to 72*f* F.

6. Ceramag - Satisfactory to 72*f* F.

The ratings for these materials are based upon the chemical resistance only. Added consideration must be given to component selections when the chemical is abrasive, viscous in nature, or has a Specific Gravity greater than 1.1.

|                                     | 304<br>Stainless<br>Steel | 316<br>Stainless<br>Steel | Aluminum | Cast<br>Bronze | Brass | Cast<br>Iron | Carbon<br>Steel | Kynar | PVC<br>(Type<br>1) | Tygon<br>(E-<br>3606) | Teflon | Noryl | Polyacetal | Nylon | Cycolac<br>(ABS) | Polyethylene | Polypropylene | Ryton | Ceramic | floroelastomers<br>( <i>r</i> ) | Buna N<br>(Nitrile) | Silicon | Neoprene | Ethylene<br>Propylene<br>(EPM) | Rubber<br>(Natural) | Epoxy |
|-------------------------------------|---------------------------|---------------------------|----------|----------------|-------|--------------|-----------------|-------|--------------------|-----------------------|--------|-------|------------|-------|------------------|--------------|---------------|-------|---------|---------------------------------|---------------------|---------|----------|--------------------------------|---------------------|-------|
| Acetaldehyde <sup>5</sup>           | A                         | A                         | B        | D              |       |              | C               |       | D                  | D                     | A      |       | A          | A     | D                | C            | B             | A     | A       | D                               | B                   | B       | D        | B                              | C                   | A     |
| Acetamide                           | B                         | A                         |          |                |       |              | C               |       |                    |                       |        |       | B          |       |                  |              |               |       | A       | A                               | A                   |         | A        | A                              | D                   | A     |
| Acetate<br>Solvent <sup>2</sup>     | B                         | A                         | B        | A              | C     | B            | A               |       | B                  | D                     | A      |       |            | A     |                  | B            | D             |       | A       | D                               | D                   |         | D        |                                |                     | A     |
| Acetic Acid,<br>Glacia <sup>1</sup> | B                         | A                         | B        | C              | C     | D            | A               |       | C                  | B                     | A      | C     | D          | D     | D                | B            | B             | A     | A       | D                               | D                   | B       | C        | B                              | C                   | B     |
| Acetic Acid<br>20%                  | B                         | A                         |          |                | C     |              |                 | A     | B                  |                       | A      | A     |            | D     |                  |              | A             | A     | A       | A                               | C                   |         | C        |                                |                     | B     |
| Acetic Acid<br>80%                  | B                         | A                         |          |                | C     |              |                 | A     | D                  |                       | A      | B     |            | D     |                  |              | B             |       | A       | A                               | C                   |         | D        |                                |                     | B     |
| Acetic Acid                         | B                         | A                         | B        | C              | C     | D            | C               | B     | A                  | B                     | A      | A     | D          | D     | C                | B            | A             | A     | A       | C                               | C                   |         | C        | B                              | C                   | A     |

|                        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Acetic Anhydride       | A | A | B | C | D | B | D | D | D | D | A | D | D | D | D | A | A | A | A | D | A | C | B | B | C | A |
| Acetone <sup>6</sup>   | A | A | A | A | A | A | A | D | D | D | A | D | B | A | D | C | B | A | A | D | D | B | C | A | D | B |
| Acetyl Chloride        | C | A |   | D |   |   |   |   |   |   | A |   |   |   |   |   |   | A |   | A |   |   |   |   | A | A |
| Acetylene <sup>2</sup> | A | A | A | B |   | A | A |   | B |   |   |   | A | A |   |   | D | A | A | A | A | C | B | A | C | A |
| Acrylonitrile          | A | C | B | A |   | C |   |   |   |   |   |   | B |   | D |   | B | A | A | C | D |   | D | D |   | A |
| Alcohols: Amyl         | A | A | C | A | B | C | C | A | A | B | A | C | A | A | B | B | B | A | A | A | A | D | A | A | C | A |
| Benzyl                 | A | A | B | A | C |   |   |   | D | B |   | A | A | A | D | D | A |   | A | A | D |   | B | B | D | A |
| Butyl                  | A | A | B | B | C | C | C | A | A | B | A | A | A | A |   | B | B | A | A | A | A | D | A | A | A | A |
| Diacetone <sup>2</sup> | A | A | A | A | C |   | A |   | D |   |   | A | A | A |   |   | D |   | A | D | D |   | D | A | D | A |
| Ethyl                  | A | A | B | A | C | A | A |   | A | C |   | A | B | A | B | B | A |   | A | A | A | B | A | B | A | A |
| Hexyl                  | A | A | A | A | C |   | A |   |   |   |   | A | A | A |   |   | A |   | A | A | A | D | B | A | A | A |
| Isobutyl               | A | A | B | A | C |   | A |   |   |   |   | A | A | A | B |   | A |   | A | A | C | B | A | A | A | A |

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C - Moderate effect - Fair 3. Polypropylene - Satisfactory to 120*f* F.

D - Severe effect - Not recommended 4. Buna-N - Satisfactory for "O" Rings

5. Polyacetal - Satisfactory to 72*f* F.

6. Ceramag - Satisfactory to 72*f* F.

|                                         | 304 Stainless Steel | 316 Stainless Steel | Aluminum | Cast Bronze | Brass | Cast Iron | Carbon Steel | Kynar | PVC (Type 1) | Tygon (E-3606) | Teflon | Noryl | Polyacetal | Nylon | Cycolac (ABS) | Polyethylene | Polypropylene | Ryton | Ceramic | floroelastomers (r) <sup>(r)</sup> | Buna N (Nitrile) | Silicon | Neoprene | Ethylene Propylene (EPM) | Rubber (Natural) | Epoxy |
|-----------------------------------------|---------------------|---------------------|----------|-------------|-------|-----------|--------------|-------|--------------|----------------|--------|-------|------------|-------|---------------|--------------|---------------|-------|---------|------------------------------------|------------------|---------|----------|--------------------------|------------------|-------|
| Alcohols: Isopropyl                     | A                   | A                   | B        | A           | C     | C         | A            |       |              |                |        | A     | A          | A     |               |              | A             |       | A       | A                                  | C                | C       | B        | A                        | A                | A     |
| Methyl <sup>6</sup>                     | A                   | A                   | B        | A           | C     | A         | A            |       | B            |                | A      | A     | C          | A     | D             | B            | A             |       | A       | C                                  | B                |         | A        | A                        | A                | A     |
| Octyl                                   | A                   | A                   | A        | A           | C     |           | A            |       |              |                |        | A     | A          | A     |               |              |               |       | A       | A                                  | B                |         | B        | A                        | C                | A     |
| Propyl                                  | A                   | A                   | A        | A           |       |           | A            | B     | A            |                | A      | A     | A          | A     |               |              | A             |       | A       | A                                  | A                | B       | A        | A                        | A                | A     |
| Aluminum Chloride 20%                   | D                   | C                   | B        | D           |       | D         | A            |       | A            | B              |        | A     | C          | A     |               | B            | A             | A     | A       | A                                  | A                |         | A        | A                        | A                | A     |
| Aluminum Chloride                       | D                   | C                   | D        | C           |       | D         | B            | A     | A            | A              | A      | A     |            | D     |               |              | A             | A     | A       | A                                  | A                | C       | A        |                          |                  | A     |
| Aluminum Fluoride                       | D                   | C                   |          |             |       |           | A            | A     | A            |                | A      | A     | C          | D     |               | B            | A             |       |         | A                                  | A                | C       | A        |                          | C                | A     |
| Aluminum Hydroxide <sup>6</sup>         | A                   | A                   | A        | A           |       | D         | A            |       | A            |                | A      | A     | B          | A     |               |              | A             |       | A       | A                                  | A                |         | A        |                          | A                | A     |
| Aluminum Potassium Sulfate (Alum), 10%  | A                   |                     | A        |             |       | D         | A            |       | A            |                | A      |       |            | A     |               | A            |               |       | A       | A                                  |                  |         | A        |                          | A                | A     |
| Aluminum Potassium Sulfate (Alum), 100% | D                   | A                   | B        | C           |       |           | A            |       | A            | B              | A      | A     | C          | D     |               | B            | A             |       | A       | A                                  | A                |         | A        |                          | A                | A     |
| Aluminum Sulfate                        | C                   | C                   | A        | C           | C     | D         | A            | A     | A            | B              | A      | A     | C          | A     |               | B            | A             | A     | A       | A                                  | A                |         | A        | A                        | A                | A     |
| Amines                                  | A                   | A                   | A        | B           |       | A         | B            |       | C            | A              | A      | B     | D          | A     |               |              |               |       | A       | D                                  | D                | C       | B        | B                        | C                | A     |
| Ammonia 10%                             |                     | A                   |          |             |       |           |              | D     | A            |                | A      | A     |            | A     |               |              | A             | A     | A       | A                                  | D                |         | A        |                          |                  | B     |
| Ammonia, Anhydrous                      | B                   | A                   | B        | D           |       | D         | B            | D     | A            | B              | A      | A     | D          | A     |               | B            | A             | B     | A       | D                                  | B                | B       | A        | A                        | D                | A     |
| Ammonia, Liquids                        | A                   | A                   | D        | D           |       | A         | A            |       | A            | B              | A      | A     | D          |       |               | D            | A             |       | A       | D                                  | B                | B       | A        | A                        | D                | A     |
| Ammonia, Nitrate                        | A                   | A                   | C        | D           |       |           | A            |       | B            | B              |        | A     | C          |       |               |              | A             |       | A       |                                    | A                |         | C        |                          |                  | A     |
| Ammonium Bifluoride                     | C                   | A                   | D        |             |       |           |              |       | A            |                |        | A     | D          |       |               |              | A             |       | A       | A                                  | A                |         | A        |                          |                  | A     |

|                                 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ammonium Carbonate              | A | A | C | B |   | C | B |   | A | B | A | A | D | A |   |   | A |   | A | B | D | C | A | A |   | A |
| Ammonium Casenite               |   | A |   |   |   |   |   |   |   |   |   | A | D |   |   |   |   |   |   |   |   | A |   |   | A |   |
| Ammonium Chloride               | A | C | C | D | C | D | D | A | A | B | A | A | B | A |   | B | A | A | A | A | A | C | A | A | A | A |
| Ammonium Hydroxide              | A | A | C | D | D | A | C |   | A | B | A | A | D | A | B | B | A | A | A | B | B | B | A | A | C | A |
| Ammonium Nitrate                | A | A | B | D | D | A | D |   | A | B | A | A | C | D |   | B | A | A | A | D | A | C | A | A | A | A |
| Ammonium Oxalate                | A | A |   |   |   |   | A |   |   |   |   |   | B |   |   |   |   |   |   | A |   | A |   |   | A |   |
| Ammonium Persulfate             | A | A | C | A |   | D | A | D | A |   | A | A | D | D |   |   | A |   | A | C | A |   | A | A | A | A |
| Ammonium Phosphate, Dibasic     | A | A | B | C |   |   | D |   | A |   | A | A | B | A |   | B | A |   | A | A | A | B | A | A | A | A |
| Ammonium Phosphate, Monobasic   | A | A | B | D |   |   | A |   | A | A | A | A | B | A |   | B | A |   | A | A | A | B | A | A | A | A |
| Ammonium Phosphate, Tribasic    | A | A | B | C |   | C | D |   | A |   | A | A | B | A |   | B | A |   | A | A | A | B | A | A | A | A |
| Ammonium Sulfate                | D | B | B | B | C | C | C | A | A | D | A | A | B | D |   | B | A | A | A | D | A | B | A | A | A | A |
| Ammonium Thio-Sulfate           |   | A |   |   |   | D | A |   |   |   |   |   | B |   |   |   |   |   | A |   | A |   | A |   | A |   |
| Amyl-Acetate                    | A | A | B | C |   |   | C | C | D | D | A | D | A | B |   | D | D | A | A | D | D | D | D | A | D | A |
| Amyl Alcohol                    | A | A | B | A |   |   | A | A | A | B | A | C | A | A |   | B | A |   | A | B | B | D | A | A | C | A |
| Amyl Chloride                   | C | B | D | A |   |   | A | A | D | C | A | D | A | C |   | D | D |   | A | A | D |   | D | D | D | A |
| Aniline                         | A | A | C | C |   |   | C | C | D | D | A | D | D | C | D | C | B | A | A | C | D | C | D | B | D | A |
| Antifreeze                      | A | A | A | B | B | B | C |   | A | B | A | A | A | A | B | B | A | A | A | A | A | C | A | A | A | A |
| Antimony Trichloride            | D | D | D |   |   |   |   |   | A | A | A |   |   | D |   | A |   |   | A | A |   |   | C |   | A | A |
| Aqua Regia (80%, HCL, 20%, HNO) | D | D | D | D |   |   |   | C | D | D | A | D | D | D |   | D | C |   | D | C | D | C | D | D | D | D |
| Arochlor 1248                   |   |   |   |   |   |   | A |   |   |   |   | D |   |   |   |   |   |   | A | D |   | D | B | D | A |   |
| Aromatic Hydrocarbons           |   | A | A | A |   | A | A |   | D |   |   | D | A |   |   | C |   |   | A | D |   | D | D | D | A |   |
| Arsenic Acid                    | A | A | D | D | B | D | D | A | A | B | A | A | D | A |   | B | A |   | A | A | A |   | A |   | C | A |
| Asphalt                         | B | A | C | A |   | C |   |   | A |   |   |   | A | A |   |   | A | A | A | B | C | B | D | D | A |   |
| Barium Carbonate                | A | A | B | B |   | B | B |   | A | A | A | A | A | A |   | B | A |   | A | A | A |   | A |   | A | A |
| Barium Chloride                 | D | A | D | B |   |   | C | A | A | B | A | A | A | B |   | B | A | A | A | A | B | A | A | A | A |   |
| Barium Cyanide                  |   | A |   | C |   |   | A |   |   |   |   |   | B |   |   | B |   |   | A | C |   | A | A |   | A |   |
| Barium Hydroxide                | C | A | D | B |   | C | C | A | A |   | A | A | D | A |   | B | A | A | A | A | C | A | A | A | A |   |

A - No effect - Excellent 1. P.V.C. - Satisfactory to 72f F.

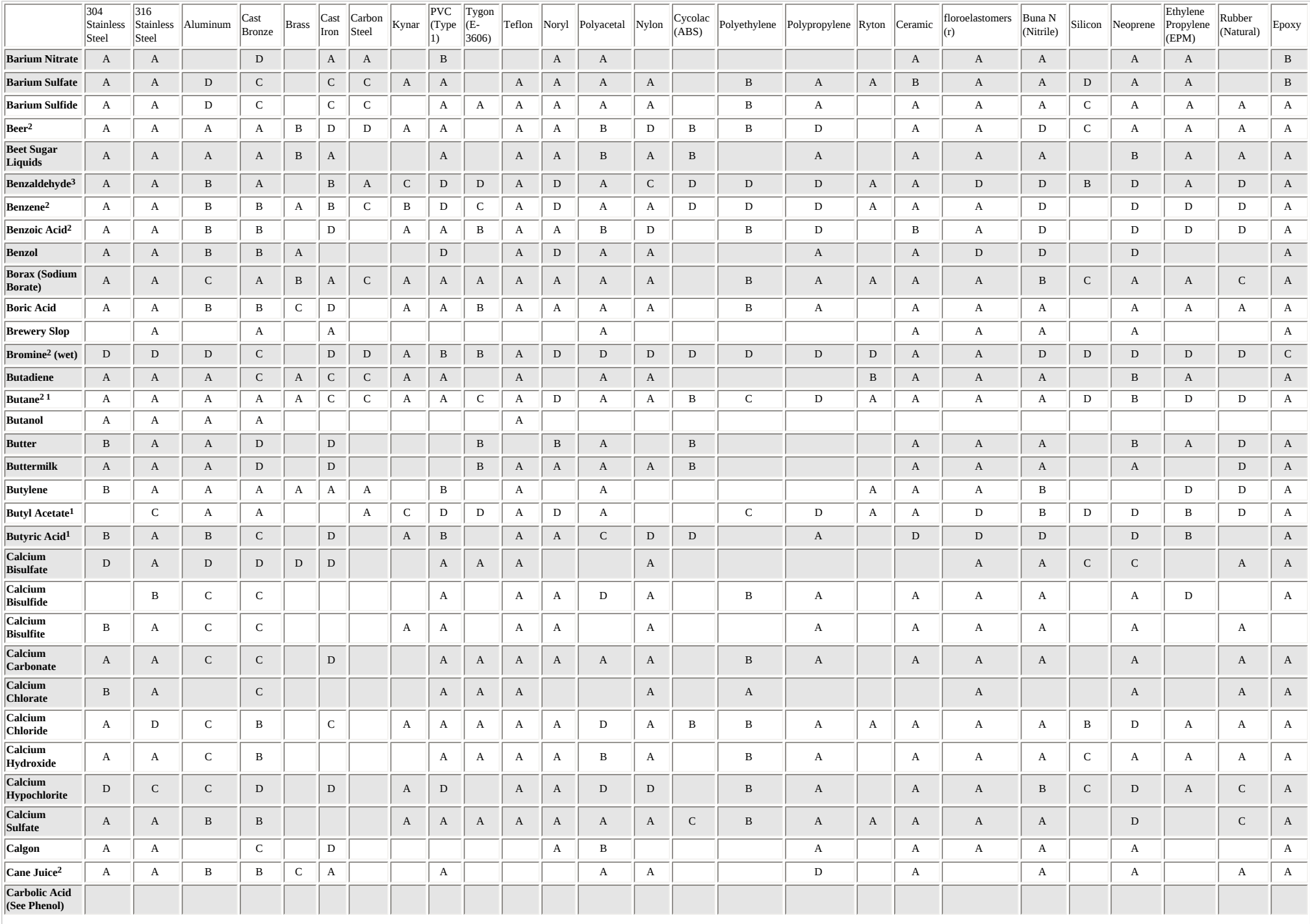
B - Minor effect - Good 2. Polypropylene - Satisfactory to 72f F.

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|                                                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|------------------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Carbon Bisulfide <sup>2</sup>                  | A | A | A | C |   | B |   |   | D | D |   |   | A | A |   |   | D |   | A | A | D |   | D | D | D | A |
| Carbon Dioxide (wet)                           | A | A | C | C | C | C |   |   |   |   | A |   |   |   |   |   |   |   | A |   |   |   |   |   |   |   |
| Carbon Disulfide <sup>2</sup>                  | B | A | C | C | C | B | C |   | D | C | A | D | A | A |   | D | D | A | B | A | D |   | D | D | D | A |
| Carbon Monoxide                                | A | A | A |   |   |   |   |   | A |   |   | B | A | A |   | B | A |   | A | A | A | B | B | A | C | A |
| Carbon Tetrachloride <sup>2</sup> <sub>1</sub> | B | B | C | C | A | C | D | A | C | C | A | D | A | A | D | D | D | C | A | A | C | C | D |   | D | C |
| Carbonated Water                               | A | A | A | B |   | D |   |   | A |   |   | A | A | A |   |   | A |   | A | A | A |   | A | A |   | A |
| Carbonic Acid                                  | A | B | A | B |   | D |   | A | A |   | A | A | A | A |   | B | A |   | A | A | B | B | A | A | A | A |
| Catsup                                         | A | A | D | C |   | D |   |   | A |   |   | A | B | A | B |   | A |   | A | A | A |   | C |   |   | A |
| Chloracetic Acid <sup>2</sup>                  | D | D | C | D |   | D |   | D | A | D | A |   | D | D |   | D | D |   | A | D | D |   | D | B | D | B |
| Chloric Acid                                   | D | D |   |   |   |   |   |   | D |   | A |   |   |   |   |   |   |   |   |   | D |   | D |   |   | D |
| Chlorinated Glue                               | A | A | D | C |   | D |   |   |   |   |   | C |   | C | D |   |   |   | A | A | C |   | D | B | D | A |

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|                                     | 304<br>Stainless<br>Steel | 316<br>Stainless<br>Steel | Aluminum | Cast<br>Bronze | Brass | Cast<br>Iron | Carbon<br>Steel | Kynar | PVC<br>(Type<br>1) | Tygon<br>(E-<br>3606) | Teflon | Noryl | Polyacetal | Nylon | Cyclac<br>(ABS) | Polyethylene | Polypropylene | Ryton | Ceramic | floroelastomers<br>(r) | Buna N<br>(Nitrile) | Silicon | Neoprene | Ethylene<br>Propylene<br>(EPM) | Rubber<br>(Natural) | Epoxy |
|-------------------------------------|---------------------------|---------------------------|----------|----------------|-------|--------------|-----------------|-------|--------------------|-----------------------|--------|-------|------------|-------|-----------------|--------------|---------------|-------|---------|------------------------|---------------------|---------|----------|--------------------------------|---------------------|-------|
| Chlorine,<br>Anhydrous<br>Liquid    | D                         | D                         | D        | D              |       | C            |                 |       | D                  | B                     | A      | A     | D          | D     |                 | D            | D             | C     | D       | A                      | D                   |         | D        | B                              | D                   | B     |
| Chlorine (dry)                      | A                         | A                         | D        | A              | B     | A            |                 |       |                    |                       | A      |       |            |       |                 |              |               | C     | A       | D                      |                     |         | D        |                                | D                   | D     |
| Chlorine Water                      |                           | D                         | D        | D              | D     | D            |                 | A     | A                  |                       | A      | C     |            | D     |                 |              | D             | C     | A       | A                      | D                   | C       | D        |                                |                     |       |
| Chlorobenzene<br>(Mono)             | A                         | A                         | B        | B              |       | B            | C               | A     | D                  | D                     | A      | D     | A          | A     | D               | D            | D             | A     | A       | A                      | D                   |         | D        | D                              | D                   | A     |
| Chloroform                          | A                         | A                         | D        | B              |       | D            | C               | C     | D                  | C                     | A      | D     | A          | C     | D               | D            | D             | C     | A       | A                      | D                   | D       | D        | D                              | D                   | A     |
| Chlorosulfonic<br>Acid <sup>1</sup> | D                         |                           | D        | D              |       |              | D               | D     | C                  | C                     | A      | D     | D          | D     |                 | D            | D             | D     | C       | D                      | D                   | D       | D        | D                              | C                   |       |
| Chlorox<br>(Bleach)                 | A                         | A                         | C        | A              |       | D            | C               |       | A                  | B                     | A      | A     | D          | D     | B               |              | D             | C     | A       | A                      | C                   |         | B        | B                              | D                   | A     |
| Chocolate<br>Syrup                  | A                         | A                         | A        |                |       | D            |                 |       |                    |                       |        | A     | A          | A     |                 |              | A             |       | A       | A                      | A                   |         | A        |                                | D                   | A     |
| Chromic Acid<br>5%                  | A                         | A                         | C        | D              | D     | D            |                 |       | A                  | B                     |        | C     | D          | D     | B               | B            | A             | A     | C       | A                      | D                   | C       | D        | A                              | B                   | B     |
| Chromic Acid<br>10%                 | B                         |                           |          |                | D     |              |                 | A     | A                  |                       | A      | A     |            | D     |                 |              | A             |       | A       | A                      | D                   |         | D        |                                |                     | C     |
| Chromic Acid<br>30%                 | B                         |                           |          |                | D     |              |                 | B     | A                  |                       | A      | D     |            | D     |                 |              | A             |       | A       | A                      | D                   |         | D        |                                |                     | D     |
| Chromic Acid<br>50%                 | B                         | B                         | C        | D              | D     | D            |                 | C     | B                  | B                     | A      | D     | D          | D     | C               | C            | B             | B     | A       | A                      | D                   |         | D        | A                              | D                   | C     |
| Cider                               | A                         | A                         | B        | A              |       | D            |                 |       | A                  |                       |        | A     | B          |       |                 | B            |               |       | A       | A                      | A                   |         | A        |                                |                     | A     |
| Citric Acid                         | A                         | A                         | C        | D              | C     | D            |                 | A     | A                  |                       | A      | A     | B          | C     | C               | B            | B             |       | A       | A                      | D                   | C       | A        | A                              | A                   | A     |
| Citric Oils                         | A                         | A                         | C        | B              |       |              |                 |       |                    |                       |        | A     | B          |       |                 |              | A             |       | A       | A                      | A                   | C       | D        |                                |                     | A     |
| Coffee                              | A                         | A                         | A        | B              |       | C            |                 |       |                    |                       | A      | A     | A          | A     |                 |              | A             |       | A       | A                      | A                   |         | A        |                                | A                   | A     |

|                                 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Copper Chloride                 | D | D | D | D |   | D |   | A | A | B | A | A | B | D |   | B | A | A | A | A | A |   | A | A | A | A |
| Copper Cyanide                  | A | A | D | C |   | D |   | A | A |   | A | A | B | A |   | B | A | A | A | B | B |   | A | A | A | C |
| Copper Fluoborate               | D | D | D | D |   | D |   |   | A |   | A |   | B |   |   | A |   |   |   | A | B |   | A |   | A | A |
| Copper Nitrate                  | A | A | D | D |   |   |   | A | A |   | A | A | B | D |   | B | A |   | A | A | A |   | A |   |   | A |
| Copper Sulfate (5% Solution)    | A | A | D | D | D | D |   |   | A |   | A | A | B | D |   | B | A | A | A | A | A | C | A |   | C | A |
| Copper Sulfate                  | B |   |   | C | D |   |   | A | A |   | A | A |   | C |   |   | A |   | A | B | B |   | A | A |   | A |
| Cream                           | A | A | A | C |   | D |   |   |   |   |   | A | A | A |   |   | A |   | A | A | A |   | C |   |   | A |
| Cresols <sup>2</sup>            | A | A | B | D | C |   |   |   | D | D |   |   | D |   | D | D | C | A | A | D | D | D | D | D | D | A |
| Cresylic Acid                   | A | A | C | C |   |   |   | B | B | D | A |   | D | D |   | C |   |   | A | A | D |   | D | D | D | A |
| Cyclohexane                     | A |   | A | A |   |   | A |   |   | D |   | D | A |   |   |   | D | A | A | A | A | D | D | D | D | A |
| Cyanic Acid                     | A |   |   |   |   |   |   |   |   |   |   |   | D |   |   |   |   |   |   |   | C |   | D |   |   | A |
| Detergents                      | A | A | A | A |   |   | A |   | A |   |   | A | B | A | B | B | A | A | A | A | A |   | B | A | C | A |
| Dichlorethane                   | A | A |   |   |   |   |   |   | D | D | A |   |   | A |   | D |   |   |   | B |   |   | D |   | D | A |
| Diesel Fuel                     | A | A | A | A |   | A | A |   |   |   |   | D | A |   |   |   | D | A | A | A | A |   | D | D | D | A |
| Diethylamine                    | A |   | A | A |   |   |   |   | D |   | A | B | D |   |   |   | C |   | A | D | B |   | B | B | C | A |
| Diethylene Glycol               | A |   |   | A |   |   |   |   |   |   |   | A | A | A | B | B |   |   | A | A | A | C | A | A | A | A |
| Diphenyl Oxide                  | A |   |   | A |   |   |   |   |   |   |   |   | A |   |   |   |   |   | A | A | D |   | D | D | D | A |
| Dyes                            | A | A | B | C |   |   |   |   |   |   |   | A | A |   |   |   |   |   |   | A |   |   | C |   |   | A |
| Epsom Salts (Magnesium Sulfate) | A | A | A | B |   |   |   |   | A |   |   | A | A |   |   |   | A |   | A | A | A |   | A |   | C | A |
| Ethane                          | A |   | A | A |   |   |   |   |   |   |   | D | A |   |   |   |   |   | A | A | A |   | B | D | D | A |
| Ethanolamine                    | A | A |   |   |   |   | C |   |   |   |   |   | D |   |   |   |   | A | A | D | B | C | B |   | C | A |
| Ether <sup>3</sup>              | A | A | A | B | A |   | B |   | D | C |   | D | A | C |   |   |   | A | A | C | D |   | D | C | D | A |
| Ethyl Acetate <sup>2</sup>      | A | A | B | B |   |   | C | D | D | D | A | D | A | A | D | C | C | A | A | D | D | C | D | B | D | A |
| Ethyl Chloride                  | A | A | B | B |   | C | D | A | D | D | A | D | A | A |   | D | D | A | A | A | D | D | C | A | A | A |
| Ethyl Sulfate                   | D |   |   |   |   |   |   |   |   |   |   |   | B |   |   |   |   |   | A | A | A |   |   |   |   | A |
| Ethylene Chloride <sup>2</sup>  | A | A | C | A |   | C | C |   | D |   | A | D | A |   | D |   | D | A | A | A | D | D | D | C | D | A |
| Ethylene Dichloride             | A | A | D | C |   |   | C |   | D | D | A | D | A | A |   | D | A | A | A | A | D | D | D | C | D | A |
| Ethylene Glycol <sup>4</sup>    | A | A | A | B | B | B | C | A | A | B | A | A | A | A | B | B | A | A | A | A | A | C | A | A | A | A |

A - No effect - Excellent 1. P.V.C. - Satisfactory to 72*f* F.

B - Minor effect - Good 2. Polypropylene - Satisfactory to 72*f* F.

C - Moderate effect - Fair 3. Polypropylene - Satisfactory to 120*f* F.

D - Severe effect - Not recommended 4. Buna-N - Satisfactory for "O" Rings

5. Polyacetal - Satisfactory to 72*f* F.

6. Ceramag - Satisfactory to 72*f* F.

|                 | 304 Stainless Steel | 316 Stainless Steel | Aluminum | Cast Bronze | Brass | Cast Iron | Carbon Steel | Kynar | PVC (Type 1) | Tygon (E-3606) | Teflon | Noryl | Polyacetal | Nylon | Cyclocac (ABS) | Polyethylene | Polypropylene | Ryton | Ceramic | floroelastomers (r) <sup>(r)</sup> | Buna N (Nitrile) | Silicon | Neoprene | Ethylene Propylene (EPM) | Rubber (Natural) | Epoxy |
|-----------------|---------------------|---------------------|----------|-------------|-------|-----------|--------------|-------|--------------|----------------|--------|-------|------------|-------|----------------|--------------|---------------|-------|---------|------------------------------------|------------------|---------|----------|--------------------------|------------------|-------|
| Ethylene Oxide  |                     | A                   | A        | A           |       |           |              |       | D            |                | A      | A     | A          | A     |                |              |               |       | A       | D                                  | D                | D       | D        | C                        | D                | A     |
| Fatty Acids     | A                   | A                   | B        | C           |       | D         |              | A     | A            | B              | A      | B     | A          | A     |                | B            | A             |       | A       | A                                  | C                | C       | B        | C                        | C                | A     |
| Ferric Chloride | D                   | D                   | D        | D           | D     | D         |              | A     | A            | B              | A      | A     | B          | D     |                | B            | A             | A     | A       | A                                  | D                | C       | B        | A                        | A                | A     |
| Ferric Nitrate  | A                   | A                   | D        | D           |       |           |              | A     | A            |                | A      | A     | B          | D     |                | B            | A             | A     | A       | A                                  | A                | D       | A        | A                        | A                | A     |

|                                               |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|-----------------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ferric Sulfate                                | A | C | D | D | D | D |   | A | A | B | A | A | B | A | C |   | A | A | A | A | B | C | A |   | A | A |
| Ferrous Chloride                              | D | D | D | C |   | D |   | A | A | B | A | A | B | D |   | B | A | A | A | A | B | C | A |   | A | A |
| Ferrous Sulfate                               | A | C | D | C |   | D | D | A | A | B | A | A | B | D |   | B | A | A | A | A | B |   | A |   | A | A |
| Fluoboric Acid                                | D | B |   |   |   | D |   | A | A | B | A | B | B | C |   | B | A |   | D | A | B |   | A |   |   | A |
| Fluorine                                      | D | D | D | D |   | D | D |   | C |   | C |   |   | D |   | C |   |   |   |   |   |   |   |   |   | D |
| Fluosilicic Acid                              |   | B | D |   |   | D |   | A | A | B | A | A | B | D |   | B | A |   | D | B | A |   | A |   |   | C |
| Formaldehyde 40%                              |   | A |   |   |   |   |   | B | B |   | A | A |   | D |   |   | A | A | A | D | B | B | A |   |   | A |
| Formaldehyde                                  | A | A | A | A | B | D | A |   | A | B | A | D | A | A |   | B | A | A | A | D | C | B | D | B | C | A |
| Formic Acid <sup>6</sup>                      | A | B | D | C | C | D | D | A | D | B | A | A | D | D |   | B | A | A | A | B | D | C | D | A | C | B |
| Fruit Juice                                   | A | A | B | B |   | D | D |   | A |   | D | A | B | A |   | B | A |   | A | A | A |   | A |   |   | A |
| Fuel Oils                                     | A | A | A | B |   | C | B | A | A |   | A | A | A | A |   | D | B | A | A | A | A | C | B | D | D | A |
| Furan Resin                                   | A | A | A | A |   | A | A |   |   |   | A |   | A |   |   |   |   | A | A | A | D |   | D |   | D | A |
| Furfural <sup>1</sup>                         | A | A | A | A |   |   | A | D | D |   | A | D | B | A | D | D | D | A | A | D | D | D | D | B | D | A |
| Gallic Acid                                   | A | A | A | A |   | D | D |   | A | A | A |   |   | A |   |   |   |   |   | B | A |   |   |   |   |   |
| Gasoline <sup>1 4</sup>                       | A | A | A | A |   | A | A | A | C |   | A | D | A | A | D | D | C | A | A | A | A | D | D | C | D | A |
| Gelatin                                       | A | A | A | A | C | D | D |   | A |   | A | A | A | A |   |   | A |   | A | A | A |   | A | A | A | A |
| Glucose                                       |   | A | A | A | A | B | B |   | A | B | A | B | A | A | B | B | A |   | A | A | A | B | A | A | A | A |
| Glue P.V.A. <sup>1</sup>                      | B | A | B | A |   |   | A |   | A | B | A |   | A | A |   |   |   |   | A | A | A |   | A |   |   | A |
| Glycerine                                     | A | A | A | A | B | B | B | A | A | B | A | A | A | A | C |   | A |   | A | A | A | B | A | A | A | A |
| Cyclic Acid                                   |   |   |   |   |   |   |   |   |   | A |   | A | C |   |   | B | A | A |   | A | A |   | A |   |   | A |
| Gold Monocyanide                              |   | A |   | A |   | D |   |   |   |   |   |   | A |   |   |   |   |   | A | A | A |   | A |   |   | A |
| Grape Juice                                   | A | A | B | B |   | D |   |   | A |   |   | A | B |   | B | B |   |   | A | A | A |   | A |   |   | A |
| Grease <sup>4</sup>                           | A | A | A | B |   | A | A |   |   |   | A |   | A | A |   |   |   |   | A | A | A |   | D |   |   | A |
| Heptane <sup>1</sup>                          |   | A | A | A |   |   | B | A | A |   | A | D | A | A | C | D | D | A | A | A | A |   | B | D |   | A |
| Hexane <sup>1</sup>                           | A | A | A | B |   |   | B | A | C |   | A | D | A | A | D |   | C | A | A | A | A | B | B | D | D | A |
| Honey                                         | A | A | A | A |   | A |   |   | A |   |   | A | A | A | B |   | A |   | A | A | A |   | A | A |   | A |
| Hydraulic Oils (Petroleum) <sup>1</sup>       | A | A | A | B |   | A | A |   |   |   | A |   | A | A |   |   | D |   | A | A | A |   | B | D | D | A |
| Hydraulic Oils (Synthetic) <sup>1</sup>       | A | A | A | A |   | A |   |   |   |   |   |   | A | A |   |   | D |   | A | A | C | D |   |   |   | A |
| Hydrazine                                     | A | A |   |   |   | C |   |   |   |   |   |   | D |   |   |   |   |   |   | A | B | D | B | A | C | A |
| Hydrobromic Acid 20%                          |   | D |   |   |   |   |   | A | A |   | A | A |   | D |   |   |   | A |   | B | A | D |   | C |   | B |
| Hydrobromic Acid <sup>4</sup>                 | D | D | D | D |   | D | D | A | A | B | A | C | D | D |   | B | B |   | A | A | D | D | D | A | A | A |
| Hydrochloric/ Muratic Acid (Dry gas)          | C | A | D |   |   |   | D |   | A |   | A |   |   |   |   |   |   |   |   |   |   |   |   | A |   | A |
| Hydrochloric/ Muratic Acid (20%) <sup>4</sup> | D | D | D | D |   | D |   | A | A | B | A | A | D | D | B | A | A | D | A | A | C |   | C | A | C | A |
| Hydrochloric/ Muratic Acid (37%) <sup>4</sup> | D | D | D | D |   | D |   | A | A | B | A | A | D | D | C | A | A | D | C | A | C | C | C | C | D | A |
| Hydrochloric/ Muratic Acid (100%)             | D | D | D | D |   | D |   |   | A | A | A |   |   | D |   | A |   |   | C | C | D |   | C |   | A | A |

|                                        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |   |   |   |   |   |   |   |   |   |   |   |
|----------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|---|---|---|---|---|---|---|---|---|---|---|
| Hydrocyanic Acid                       | A | A | A | D | D |   | C |   | A | B | A | A | B | A |  | B | A |   | A | A | C |   | B |   | A | A |
| Hydrocyanic Acid (Gas 10%)             | D | D |   |   |   |   |   |   | A |   | A |   |   |   |  |   |   |   |   |   |   |   | C | A | C | A |
| Hydrofluoric Acid (20%) <sup>1</sup>   | D | D | D | D |   | D |   |   | D | B | A | A | D | D |  | C | A | C | C | A | D |   | C | A | C | B |
| Hydrofluoric Acid (75%) <sup>1 2</sup> | C | D | D | D |   | D |   | A | C | B | A | D | D | D |  | C | B | C | D | A | D | D | D | C | C | C |
| Hydrofluoric Acid 100%                 | D | D | D | D |   | D | D |   | C | D | A |   |   |   |  | D |   | C | D |   | D |   | D |   | D | A |

A - No effect - Excellent 1. P.V.C. - Satisfactory to 72*f* F.  
B - Minor effect - Good 2. Polypropylene - Satisfactory to 72*f* F.  
C - Moderate effect - Fair 3. Polypropylene - Satisfactory to 120*f* F.  
D - Severe effect - Not recommended 4. Buna-N - Satisfactory for "O" Rings  
5. Polyacetal - Satisfactory to 72*f* F.  
6. Ceramag - Satisfactory to 72*f* F.

|                                    | 304 Stainless Steel | 316 Stainless Steel | Aluminum | Cast Bronze | Brass | Cast Iron | Carbon Steel | Kynar | PVC (Type 1) | Tygon (E-3606) | Teflon | Noryl | Polyacetal | Nylon | Cyclocac (ABS) | Polyethylene | Polypropylene | Ryton | Ceramic | floroelastomers (r) | Buna N (Nitrile) | Silicon | Neoprene | Ethylene Propylene (EPM) | Rubber (Natural) | Epoxy |
|------------------------------------|---------------------|---------------------|----------|-------------|-------|-----------|--------------|-------|--------------|----------------|--------|-------|------------|-------|----------------|--------------|---------------|-------|---------|---------------------|------------------|---------|----------|--------------------------|------------------|-------|
| Hydrofluosilicic Acid (20%)        | D                   | D                   | D        | A           |       | D         |              |       | D            |                | A      | B     | D          | D     |                |              | A             |       | D       | A                   | B                |         | B        | A                        | A                | C     |
| Hydrofluosilicic Acid              | D                   | D                   | C        | D           |       |           |              |       |              | C              | A      |       |            |       |                |              |               |       |         |                     |                  | D       | A        |                          |                  |       |
| Hydrogen Gas                       | A                   | A                   | A        | A           |       | B         | B            | A     | A            |                | A      |       |            |       |                |              |               |       |         | A                   |                  |         |          |                          |                  | A     |
| Hydrogen Peroxide 10%              | C                   | C                   | A        | D           | D     | D         |              |       | A            | A              | A      |       |            | D     |                | A            |               | B     | A       |                     | A                |         | D        |                          | C                | D     |
| Hydrogen Peroxide 30%              |                     | B                   |          |             | D     |           |              |       | A            |                | A      |       |            | D     |                |              | A             | C     |         | A                   | D                |         | C        |                          |                  | B     |
| Hydrogen Peroxide                  | A                   | B                   | A        | D           | D     | D         | D            | C     | A            | C              | A      | B     | D          | D     |                | B            | A             | C     | A       | A                   | D                | C       | D        | C                        | C                | A     |
| Hydrogen Sulfide, Aqueous Solution | D                   | A                   | C        | D           | C     | D         |              | A     | A            | B              | A      | A     | D          | D     |                | B            | A             | A     | A       | D                   | C                |         | B        | A                        | D                | A     |
| Hydrogen Sulfide (dry)             | C                   | A                   | D        | D           | C     | B         | B            |       | A            |                | A      |       |            | D     |                |              |               | A     | A       | D                   |                  |         |          |                          | A                | A     |
| Hydroxyacetic Acid (70%)           |                     |                     | D        |             |       |           |              |       | A            |                |        |       | D          |       |                |              |               |       | A       | A                   | A                |         | A        | A                        |                  | A     |
| Ink                                | A                   | A                   | C        | C           |       | D         | D            |       |              |                |        | B     | A          | A     |                | B            |               |       | A       | A                   | A                |         | A        |                          |                  | A     |
| Iodine                             | D                   | D                   | D        | D           |       | D         |              |       | D            | B              | A      | A     | C          | D     | D              | D            | D             |       | A       | A                   | B                |         | D        | B                        | D                | A     |
| Iodine (In Alcohol)                |                     | B                   |          |             |       |           |              |       | D            |                | A      | C     |            | D     |                |              | B             |       | A       | A                   | D                |         | D        |                          |                  |       |
| Iodoform                           | C                   | A                   | A        | C           |       | C         | B            |       |              |                | A      |       |            | A     |                |              |               |       |         | A                   |                  |         |          |                          |                  |       |
| Isotane <sup>2</sup>               |                     |                     | A        |             |       |           |              |       |              |                |        | D     | A          |       |                |              | D             |       | A       | A                   | A                |         |          |                          | D                | A     |
| Isopropyl Acetate                  |                     | B                   | C        |             |       |           |              |       |              |                |        |       | A          |       |                |              |               |       | A       | D                   | D                |         | D        | B                        | D                | A     |
| Isopropyl Ether <sup>2</sup>       |                     | A                   | A        | A           |       |           | A            |       |              |                | A      | D     | A          |       |                |              | D             |       | A       | D                   | B                |         | D        | D                        | D                |       |
| Jet Fuel (JP#, JP4, JP5)           | A                   | A                   | A        | A           |       | A         | A            | A     | A            |                | A      | D     | A          | A     |                |              | D             | A     | A       | A                   | A                | D       | D        | D                        | D                | A     |
| Kerosene <sup>2</sup>              | A                   | A                   | A        | A           | A     | A         | B            | A     | A            | D              | A      | D     | A          | A     | B              | D            | D             | A     | A       | A                   | A                | D       | D        | A                        | D                | A     |
| Ketones                            | A                   | A                   | B        | A           |       | A         | A            | D     | D            | D              | A      | D     | B          | A     |                | D            | D             | A     | A       | D                   | D                |         | D        | D                        | C                | C     |
| Lacquers                           | A                   | A                   | A        | A           | C     | C         | C            |       |              | D              |        | C     | A          | A     |                |              | A             |       | A       | D                   | D                |         | D        |                          | D                | A     |
| Lacquer Thinners                   |                     | A                   |          |             | C     |           |              |       | C            |                | A      | D     |            | A     |                |              | B             |       | A       |                     | D                |         | D        | A                        |                  |       |
| Lactic Acid                        | A                   | B                   | C        | D           |       | D         | D            | C     | A            | B              | A      | A     | B          | C     |                | B            | A             | A     | A       | B                   | B                |         | A        | B                        | A                | A     |
| Lard                               | A                   | A                   | A        | A           |       | A         | C            |       | A            |                |        |       | A          | A     | C              |              | A             |       | A       | A                   | A                | C       | B        |                          | D                | A     |



|                                     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|-------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Latex                               | A | A | A | A |   |   |   |   |   |   | A | A | A |   | B |   |   | A | A | A |   | C | A |   | A |   |
| Lead Acetate                        | A | A | D | C |   |   | D |   | A | B | A | A | A | A | B | A |   | A | D | B |   | D | A | A | A |   |
| Lead Sulfamate                      |   |   |   |   |   |   |   |   |   |   |   | A |   |   |   | A |   |   | A | B | C | A | D | C | A |   |
| Ligroin <sup>3</sup>                |   | A |   | A |   |   |   |   |   |   | D | A |   |   |   | D |   | A | A | A |   | B | A | D | A |   |
| Lime                                | A | A | C | A |   | A |   |   | A |   |   | A | D |   | C |   |   | A | A | A | C | B | D |   | A |   |
| Lubricants                          | A | A | A | B |   |   |   |   | A |   | A |   | A | A | B |   | A | A | A | A | C | D |   | D | A |   |
| Magnesium Carbonate                 | A | A |   |   |   |   |   |   | A |   |   | A | A |   |   | B | A |   | A |   | A | A |   |   | A |   |
| Magnesium Chloride                  | B | B | D | B | C | D | C |   | A | B | A | A | A | A |   | B | A | A | A | A |   | A | A | A | A |   |
| Magnesium Hydroxide                 | A | A | D | C | B | B | B | A | A |   | A | A | A | A |   | B | A | A | A | B |   | B |   | C | A |   |
| Magnesium Nitrate                   | A | A |   |   |   |   |   |   | A |   | A | A | A | A |   | B | A |   | A | A | A |   | A |   | A |   |
| Magnesium Oxide                     | A | A |   |   |   |   |   |   |   |   |   | A |   |   |   |   |   |   | A | A |   | A | A |   | A |   |
| Magnesium Sulfate                   | B | A | B | B | B | C | B |   | A | B | A | A | A | A |   | B | A | A | A | A |   | A | D | C | A |   |
| Maleic Acid                         | A | A | B | C |   |   | B |   | A | B | A | A | C | A |   |   | C |   | A | A | D |   | A | D | D | A |
| Maleic Anhydride                    |   |   |   |   |   |   |   |   |   |   |   |   | C |   |   |   |   |   | A | A | D |   | D |   | D | A |
| Malic Acid                          | A | A | C | D |   |   | D |   | A |   | A |   |   | A |   |   |   |   | A | B |   |   | A |   | A |   |
| Mash                                | A | A |   | A |   |   |   |   |   |   |   | A | A |   |   |   |   |   | A |   | A |   |   |   | A |   |
| Mayonnaise                          | A | A | D | D |   | D | D |   |   |   | A | A | A | A | B |   | A |   | A | A | A |   |   |   |   | A |
| Melamine                            | D | D |   | D |   |   |   |   |   |   |   |   | D |   |   |   |   |   | A |   | C |   |   |   |   | A |
| Mercuric Chloride (Dilute Solution) | D | D | D | D | D | D | D |   | A | A | A | A | A | A |   | B | A |   | A | A | A |   | A | A | A | A |
| Mercuric Cyanide                    | A | A | D | D |   |   | D |   | A |   | A | A | A |   |   | B | A |   | A |   | A |   |   |   |   | A |
| Mercury                             | A | A | C | D | D | A | A |   | A |   | A | A | A | A |   | B | A |   | A | A | A |   | A | A | A | A |

A - No effect - Excellent 1. P.V.C. - Satisfactory to 72*f* F.

B - Minor effect - Good 2. Polypropylene - Satisfactory to 72*f* F.

C - Moderate effect - Fair 3. Polypropylene - Satisfactory to 120*f* F.

D - Severe effect - Not recommended 4. Buna-N - Satisfactory for "O" Rings

5. Polyacetal - Satisfactory to 72*f* F.

6. Ceramag - Satisfactory to 72*f* F.

|                               | 304 Stainless Steel | 316 Stainless Steel | Aluminum | Cast Bronze | Brass | Cast Iron | Carbon Steel | Kynar | PVC (Type 1) | Tygon (E-3606) | Teflon | Noryl | Polyacetal | Nylon | Cycolac (ABS) | Polyethylene | Polypropylene | Ryton | Ceramic | floroelastomers (r) | Buna N (Nitrile) | Silicon | Neoprene | Ethylene Propylene (EPM) | Rubber (Natural) | Epoxy |
|-------------------------------|---------------------|---------------------|----------|-------------|-------|-----------|--------------|-------|--------------|----------------|--------|-------|------------|-------|---------------|--------------|---------------|-------|---------|---------------------|------------------|---------|----------|--------------------------|------------------|-------|
| Methanol (See Alcohol Methyl) |                     |                     |          |             |       |           |              |       |              |                |        |       |            |       |               |              |               |       |         |                     |                  |         |          |                          |                  |       |
| Methyl Acetate                |                     | A                   | A        | A           |       |           | B            |       |              |                | A      |       | A          |       | D             |              |               |       | A       | D                   | D                | D       | B        | B                        | D                |       |
| Methyl Acrylate               |                     |                     |          |             |       |           |              |       |              |                |        |       | A          |       |               |              |               |       | A       | D                   | D                |         | B        | B                        | D                | A     |
| Methyl Acetone                |                     | A                   | A        | A           |       | A         | A            |       |              |                | A      | D     | A          |       |               |              |               |       | A       | D                   | D                |         | D        |                          |                  | C     |
| Methyl Alcohol 10%            |                     | A                   | C        | C           |       |           | B            |       | A            |                | A      |       |            | A     |               |              |               |       |         |                     | B                |         |          |                          | A                | A     |
| Methyl Bromide                |                     |                     |          |             |       |           |              |       |              |                |        |       | A          |       |               | D            |               |       | A       | A                   | B                |         | D        | D                        | D                | B     |
| Methyl Butyl Ketone           |                     | A                   | A        |             |       |           |              |       |              |                |        | D     | B          |       |               |              |               |       | A       | D                   | D                | C       | D        | A                        | D                | B     |
| Methyl Cellosolve             |                     |                     | A        | A           |       |           |              |       |              |                |        | C     | B          |       |               |              | A             |       | A       | D                   | D                |         | D        | B                        | D                | C     |

|                                     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|-------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Methyl Chloride                     | A | A | D | A |   |   |   | A | D |   | A | D | A | A |   | D | D |   | A | A | D | D | D | C | D | A |
| Methyl Dichloride                   |   |   |   |   |   |   |   |   |   |   |   | D | A |   |   |   |   |   | A | A | D |   | D | D | D | A |
| Methyl Ethyl Ketone                 | A | A | A | A |   |   |   | D | D |   | A | D | B | A | D | D | A | A | A | D | D | C | D | A | D | B |
| Methyl Isobutyl Ketone <sup>2</sup> |   | A |   |   |   |   |   | D | D |   | A | D | B | A | D |   | C | A | A | D | D | C | D | C | D | B |
| Methyl Isopropyl Ketone             |   | A |   |   |   |   |   |   |   |   |   | D | B | A |   |   |   |   | A | D | D | B | D | B | D | B |
| Methyl Methacrylate                 |   |   |   |   |   |   |   |   |   |   |   |   | A |   |   |   |   |   | A | D | D |   | D | D | D | A |
| Methylamine                         |   | A | A | D |   | B | B |   |   |   |   | B | D |   |   |   |   |   | A |   | B |   |   |   |   | A |
| Methylene Chloride                  | A | A | A | A | C |   | B | D | D |   | A | D | A | D |   | D | D |   | A | D | D |   | D | D | D | A |
| Milk                                | A | A | A | C | C | D | D |   | A |   |   | A | A | A | B | B | A |   | A | A | A | B | A | A | A | A |
| Molasses                            | A | A | A | A | B | A | A |   | A |   |   | B | A | A |   | B | A |   | A | A | A |   | A |   |   | A |
| Mustard                             | A | A | B | B |   | C | B |   | A |   |   | B | B | A | B |   | A |   | A | A | B | C | C |   |   | A |
| Naphtha                             | A | A | A | B |   | B | B | A | A | C | A | D | A | A | C | D | A | A | A | A | B | D | D | D | D | A |
| Naphthalene                         | A | B | B | C |   | B | A | A | D |   | A | D | A |   |   | D | B | A | A | B | D |   | D | D | D | A |
| Nickel Chloride                     | A | B | D | D |   | D |   | A | A | B | A | A | B | A |   | B | A |   | A | A | A |   | A | A | A | A |
| Nickel Sulfate                      | A | B | D | C | C | D | D | A | A | A | A | A | B | A |   | B | A |   | A | A | A |   | A | A | C | A |
| Nitric Acid (10% Solution)          | A | A | D | D |   | D | D | A | A | B | A | A | D | D | C | B | A | D | B | A | D |   | D | B | D | A |
| Nitric Acid (20% Solution)          | A | A | D | D |   | D |   | B | A | B | A | A | D | D | D | B | A | C | C | A | D |   | D | D | D | B |
| Nitric Acid (50% Solution)          | A | A | D | D |   | D |   | B | A | B | A | A | D | D | D | C | D | C | A | A | D |   | D | D | D | D |
| Nitric Acid (Concentrated Solution) | D | B | B | D | D | D |   |   | D | C | A | D | D | D | D | D | D | C | A | B | D |   | D | D | D | D |
| Nitrobenzene <sup>2</sup>           | A | B | C | D |   | B | B | D | D | D | A | D | B | C | D | D | C | B | A | D | D | D | D | D | D | B |
| Oils: Aniline                       | A | A | C | A |   | A |   |   | D |   | A | D | D | C | D |   | A |   | A | A | D |   | D | B | D | A |
| Anise                               | A | A |   |   |   |   |   |   |   |   |   |   | A |   |   |   |   |   | A |   |   |   | D |   |   | A |
| Bay                                 | A | A |   |   |   |   |   |   |   |   |   |   | A |   |   |   |   |   | A | A |   |   | D |   |   | A |
| Bone                                | A | A |   | A |   |   |   |   |   |   |   |   | A |   |   |   |   |   | A | A | A |   | D |   |   | A |
| Castor                              | A | A | A | A |   | A |   |   | A |   |   |   | A |   |   |   |   |   | A | A | A |   | A | B | A | A |
| Cinnamon                            | A | A |   |   |   |   |   |   |   |   | A |   | A |   |   |   | A |   | A | D |   |   | D |   |   | A |
| Citric                              | A | A |   | D |   | D |   |   |   |   |   |   | A | A |   |   | A |   | A | A | A |   | D |   |   | A |
| Clove                               | A | A |   |   |   |   |   |   |   |   |   |   | A | A |   |   | B |   | A |   | A |   |   |   |   | A |
| Coconut                             | A | A | B | A |   | A |   |   |   |   |   |   | A | A |   |   | A |   | A | A | A |   | A | A | D | A |
| Cod Liver                           | A | A | B |   |   |   |   |   |   |   |   |   | A | A | C |   | A |   | A | A | A |   | B | A | D | A |
| Corn                                | A | A | B | B |   | A |   |   |   |   |   |   | A | A | C |   | A |   | A | A | A |   | D | C | D | A |
| Cotton Seed                         | A | A | B | B |   | A | C |   | A |   | A |   | A | A | C |   | A | A | A | A | A |   | D | C | D | A |
| Creosote <sup>2</sup>               | A | A | A |   |   |   |   |   |   |   |   |   | D |   |   |   | D |   | A | A | A |   | B | D | D | A |
| Diesel Fuel (2D, 3D, 4D, 5D)        | A | A | A | A |   |   |   |   |   |   |   | D | A | A |   |   | A | A | A | A | A |   | D | D | D | A |
| Fuel (1, 2, 3, 5A, 5B, 6)           | A | A | A | A |   |   |   |   | A |   | A | D | A |   |   |   | B |   | A | A | B |   | D | D | D | A |

|                                                                                                                                                                                                                                                                                                                                                                           |                           |                           |          |                |       |              |                 |       |                    |                       |        |       |            |       |                   |              |               |       |         |                        |                     |         |          |                                |                     |       |   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|---------------------------|----------|----------------|-------|--------------|-----------------|-------|--------------------|-----------------------|--------|-------|------------|-------|-------------------|--------------|---------------|-------|---------|------------------------|---------------------|---------|----------|--------------------------------|---------------------|-------|---|
| Ginger                                                                                                                                                                                                                                                                                                                                                                    | A                         | A                         |          |                |       |              |                 |       |                    |                       |        |       |            |       | A                 |              |               |       |         | A                      | A                   | A       |          | A                              |                     |       | A |
| A - No effect - Excellent 1. P.V.C. - Satisfactory to 72f F.<br>B - Minor effect - Good 2. Polypropylene - Satisfactory to 72f F.<br>C - Moderate effect - Fair 3. Polypropylene - Satisfactory to 120f F.<br>D - Severe effect - Not recommended 4. Buna-N - Satisfactory for "O" Rings<br>5. Polyacetal - Satisfactory to 72f F.<br>6. Ceramag - Satisfactory to 72f F. |                           |                           |          |                |       |              |                 |       |                    |                       |        |       |            |       |                   |              |               |       |         |                        |                     |         |          |                                |                     |       |   |
|                                                                                                                                                                                                                                                                                                                                                                           | 304<br>Stainless<br>Steel | 316<br>Stainless<br>Steel | Aluminum | Cast<br>Bronze | Brass | Cast<br>Iron | Carbon<br>Steel | Kynar | PVC<br>(Type<br>1) | Tygon<br>(E-<br>3606) | Teflon | Noryl | Polyacetal | Nylon | Cyclocac<br>(ABS) | Polyethylene | Polypropylene | Ryton | Ceramic | floroelastomers<br>(r) | Buna N<br>(Nitrile) | Silicon | Neoprene | Ethylene<br>Propylene<br>(EPM) | Rubber<br>(Natural) | Epoxy |   |
| Oils: Hydraulic<br>(See Hydraulic)                                                                                                                                                                                                                                                                                                                                        |                           |                           |          |                |       |              |                 |       |                    |                       |        |       |            |       |                   |              |               |       |         |                        |                     |         |          |                                |                     |       |   |
| Lemon                                                                                                                                                                                                                                                                                                                                                                     | A                         | A                         |          |                |       |              |                 |       |                    |                       |        |       | A          |       |                   |              | D             |       | A       | A                      |                     |         | D        |                                |                     | A     |   |
| Linseed                                                                                                                                                                                                                                                                                                                                                                   | A                         | A                         | A        | A              |       | A            |                 |       | A                  | B                     |        |       | A          | A     | C                 |              | A             |       | A       | A                      | A                   |         | D        | D                              | D                   | A     |   |
| Mineral                                                                                                                                                                                                                                                                                                                                                                   | A                         | A                         | A        | A              |       | A            | B               |       | A                  |                       |        | B     | A          | A     |                   |              | B             | A     | A       | A                      | A                   |         | B        | D                              | D                   | A     |   |
| Olive                                                                                                                                                                                                                                                                                                                                                                     | A                         | A                         | A        | B              |       | A            | B               |       | A                  |                       | A      |       | A          | A     |                   |              | A             |       | A       | A                      | A                   | C       | B        |                                | D                   | A     |   |
| Orange                                                                                                                                                                                                                                                                                                                                                                    | A                         | A                         |          |                |       |              |                 |       |                    |                       | A      |       | A          | A     |                   |              | A             |       | A       | A                      | A                   |         | D        |                                |                     | A     |   |
| Palm                                                                                                                                                                                                                                                                                                                                                                      | A                         | A                         | A        | B              |       |              |                 |       | A                  |                       |        |       | A          | A     |                   |              |               |       | A       | A                      | A                   |         | D        |                                |                     | A     |   |
| Peanut <sup>3</sup>                                                                                                                                                                                                                                                                                                                                                       | A                         | A                         | A        | A              |       | A            |                 |       | A                  |                       |        |       | A          |       |                   |              | D             |       | A       | A                      | A                   |         | D        |                                | D                   | A     |   |
| Peppermint <sup>2</sup>                                                                                                                                                                                                                                                                                                                                                   | A                         | A                         |          | A              |       |              |                 |       |                    |                       |        |       | A          |       |                   |              | D             |       | A       | A                      | D                   |         | D        |                                |                     | A     |   |
| Pine                                                                                                                                                                                                                                                                                                                                                                      | A                         | A                         | A        | D              |       | C            | B               |       | A                  |                       | A      |       | A          |       |                   |              |               |       | A       | A                      | A                   |         | D        |                                | D                   | A     |   |
| Rape Seed                                                                                                                                                                                                                                                                                                                                                                 | A                         | A                         |          | A              |       |              |                 |       | A                  |                       |        |       | A          |       |                   |              |               |       | A       | A                      | B                   |         | D        |                                | D                   | A     |   |
| Rosin                                                                                                                                                                                                                                                                                                                                                                     | A                         | A                         | A        |                |       |              |                 |       |                    |                       |        |       | A          | A     |                   |              | A             |       | A       | A                      | A                   |         |          |                                |                     | A     |   |
| Sesame Seed                                                                                                                                                                                                                                                                                                                                                               | A                         | A                         | A        | A              |       | A            |                 |       | A                  |                       |        |       | A          |       |                   |              |               |       | A       | A                      | A                   |         | D        |                                |                     | A     |   |
| Silicone                                                                                                                                                                                                                                                                                                                                                                  | A                         | A                         |          | A              |       | A            |                 |       |                    |                       |        | A     | A          | A     |                   |              | A             |       | A       | A                      | A                   |         | A        |                                | A                   | A     |   |
| Soybean                                                                                                                                                                                                                                                                                                                                                                   | A                         | A                         | A        | B              |       | A            |                 |       | A                  |                       |        |       | A          | A     |                   |              | A             |       | A       | A                      | A                   |         | D        |                                | D                   | A     |   |
| Sperm                                                                                                                                                                                                                                                                                                                                                                     | A                         | A                         |          | A              |       |              |                 |       | A                  |                       |        |       | A          |       |                   |              |               |       | A       | A                      | A                   |         | D        |                                |                     | A     |   |
| Tanning                                                                                                                                                                                                                                                                                                                                                                   | A                         | A                         |          |                |       |              |                 |       |                    |                       |        |       | A          |       |                   |              |               |       | A       | A                      | A                   |         | D        |                                |                     | A     |   |
| Turbine                                                                                                                                                                                                                                                                                                                                                                   | A                         | A                         | A        | A              |       | A            |                 |       | A                  |                       |        |       | A          |       | C                 |              |               |       | A       | A                      | A                   |         | D        |                                | D                   | A     |   |
| Oleic Acid                                                                                                                                                                                                                                                                                                                                                                | A                         | A                         | B        | B              | C     | C            | C               |       | A                  | C                     | A      | C     | B          | A     | B                 | D            | C             |       | A       | D                      | B                   | D       | D        | D                              | D                   | A     |   |
| Oleum 25%                                                                                                                                                                                                                                                                                                                                                                 |                           |                           |          |                |       |              |                 | B     | D                  |                       | A      | D     |            |       |                   |              |               |       | A       | A                      | D                   | D       | D        | D                              |                     | D     |   |
| Oleum                                                                                                                                                                                                                                                                                                                                                                     |                           | A                         | B        | C              | C     |              | B               | D     | D                  |                       | A      |       | D          |       |                   |              | D             |       | A       | A                      | C                   | D       | D        | D                              | D                   | A     |   |
| Oxalic Acid (cold)                                                                                                                                                                                                                                                                                                                                                        | A                         | B                         | C        | B              | C     | D            | D               |       | A                  | B                     | A      | C     | C          | D     |                   | A            | A             |       | A       | A                      | B                   | C       | B        | A                              | C                   | A     |   |
| Paraffin                                                                                                                                                                                                                                                                                                                                                                  | A                         | A                         | A        | A              |       | B            | B               | A     | A                  |                       | A      | B     | A          | A     | B                 |              | A             |       | A       | A                      | A                   |         |          |                                |                     | A     |   |
| Pentane                                                                                                                                                                                                                                                                                                                                                                   | C                         | C                         | A        | A              |       | B            | B               |       |                    |                       | A      | D     | A          | A     | D                 |              |               |       | A       | A                      | A                   |         | B        | D                              | D                   | A     |   |
| Perchloroethylene <sup>2</sup>                                                                                                                                                                                                                                                                                                                                            | A                         | A                         | A        | C              |       | B            | B               | A     |                    |                       | A      | D     | A          |       | D                 |              | D             | A     | A       | A                      | C                   | D       | D        | D                              | D                   | A     |   |
| Petrolatum                                                                                                                                                                                                                                                                                                                                                                |                           | A                         | B        | B              |       | C            | C               |       |                    |                       | A      | D     | A          | A     | B                 |              |               |       | A       | A                      | A                   |         | B        | A                              | D                   | A     |   |
| Phenol 10%                                                                                                                                                                                                                                                                                                                                                                | A                         | A                         | A        | C              |       | B            | D               |       | A                  | C                     | A      |       |            | D     |                   |              |               | A     |         | B                      | D                   |         | C        | D                              | C                   | C     |   |
| Phenol (Carbolic<br>Acid)                                                                                                                                                                                                                                                                                                                                                 | A                         | A                         | B        | B              | D     | D            | D               | A     | A                  | C                     | A      | C     | D          | D     |                   | D            | B             | A     | D       | A                      | D                   |         | D        | D                              | D                   | B     |   |
| Phosphoric Acid<br>(40% Solution)                                                                                                                                                                                                                                                                                                                                         | B                         | A                         | D        | D              | D     | D            |                 |       | A                  | B                     | A      | A     | D          | D     | C                 | B            | A             | A     | C       | A                      | D                   |         | D        | B                              | C                   | A     |   |
| Phosphoric Acid<br>(40% - 100%<br>Solution)                                                                                                                                                                                                                                                                                                                               | C                         | B                         | D        | D              | D     | D            |                 |       | A                  | B                     | A      | A     | D          | D     | D                 | C            | A             | A     | D       | A                      | D                   |         | D        | B                              | C                   | C     |   |
| Phosphoric Acid<br>(Crude)                                                                                                                                                                                                                                                                                                                                                | D                         | C                         | D        | D              | D     | D            | D               | A     |                    |                       | A      |       | D          | D     | D                 | C            |               | A     | D       | A                      | D                   |         | D        | B                              |                     | A     |   |
| Phosphoric<br>Anhydride (Dry or<br>Moist)                                                                                                                                                                                                                                                                                                                                 | A                         | A                         |          |                | D     |              |                 |       | D                  | D                     | A      |       |            |       |                   |              |               |       |         | D                      | D                   |         | D        |                                | A                   |       |   |

|                                                   |   |   |   |   |   |   |   |  |   |   |   |   |   |   |  |   |   |  |   |   |   |   |   |   |   |
|---------------------------------------------------|---|---|---|---|---|---|---|--|---|---|---|---|---|---|--|---|---|--|---|---|---|---|---|---|---|
| Phosphoric Anhydride (Molten)                     | A | A | D | D | D |   |   |  | D |   | A |   |   | A |  | D |   |  | D | C |   | D |   | D | A |
| Photographic (Developer)                          | C | A | C |   |   | D |   |  | A |   |   | A | C |   |  | B | A |  | A | A |   | A |   |   | A |
| Phthalic Anhydride                                | A | B | B | B |   | C | C |  |   |   | A |   |   | A |  |   |   |  | A | C |   |   |   |   |   |
| Picric Acid                                       | A | A | C | D | D | D | D |  | A | A | A |   |   | A |  | A |   |  | A | A | D | A |   | A | A |
| Plating Solutions Antimony Plating 130 <i>f</i> F |   | A |   |   |   |   |   |  | A |   | A | A |   | D |  |   | A |  | A | A | A | D | A |   | B |
| Arsenic Plating 110 <i>f</i> F                    |   | A |   |   |   |   |   |  | A |   | A | A |   | A |  |   | A |  | C | A | A | D | A |   | B |
| Brass Plating Regular Brass Bath 100 <i>f</i> F   |   | A |   |   |   |   |   |  | A |   | A | A |   | A |  |   | A |  | C | A | A | D | A |   | B |
| High Speed Brass Bath 110 <i>f</i> F              |   | A |   |   |   |   |   |  | A |   | A | A |   | A |  |   | A |  | D | A | A | D | A |   | B |
| Bronze Plating Copper Cadmium Bronze Bath R.T.    |   | A |   |   |   |   |   |  | A |   | A | A |   | A |  |   | A |  | C | A | A | D | A |   | B |
| Copper-Tin Bronze Bath 160 <i>f</i> F             |   | A |   |   |   |   |   |  | D |   | A | A |   | A |  |   | A |  | D | A | A | D | B |   | C |
| Copper-Zinc Bronze Bath 100 <i>f</i> F            |   | A |   |   |   |   |   |  | A |   | A | A |   | A |  |   | A |  | C | A | A |   | A |   | B |
| Cadmium Plating Cyanide Bath 90 <i>f</i> F        |   | A |   |   |   |   |   |  | A |   | A | A |   | A |  |   | A |  | C | A | A |   | A |   | B |

A - No effect - Excellent 1. P.V.C. - Satisfactory to 72*f* F.

B - Minor effect - Good 2. Polypropylene - Satisfactory to 72*f* F.

C - Moderate effect - Fair 3. Polypropylene - Satisfactory to 120*f* F.

D - Severe effect - Not recommended 4. Buna-N - Satisfactory for "O" Rings

5. Polyacetal - Satisfactory to 72*f* F.

6. Ceramag - Satisfactory to 72*f* F.

|                                                            | 304 Stainless Steel | 316 Stainless Steel | Aluminum | Cast Bronze | Brass | Cast Iron | Carbon Steel | Kynar | PVC (Type I) | Tygon (E-3606) | Teflon | Noryl | Polyacetal | Nylon | Cycolac (ABS) | Polyethylene | Polypropylene | Ryton | Ceramic | floroelastomers (r) | Buna N (Nitrile) | Silicon | Neoprene | Ethylene Propylene (EPM) | Rubber (Natural) | Epoxy |
|------------------------------------------------------------|---------------------|---------------------|----------|-------------|-------|-----------|--------------|-------|--------------|----------------|--------|-------|------------|-------|---------------|--------------|---------------|-------|---------|---------------------|------------------|---------|----------|--------------------------|------------------|-------|
| Cadmium Plating Fluoborate Bath 100 <i>f</i> F             |                     | A                   |          |             |       |           |              |       | A            |                | A      | A     |            | D     |               |              | A             |       | D       | A                   | B                |         | C        |                          |                  | B     |
| Chromium Plating Chromic-Sulfuric Bath 130 <i>f</i> F      |                     | C                   |          |             |       |           |              |       | A            |                | A      | D     |            | D     |               |              | A             |       | A       | C                   | D                |         | D        |                          |                  | D     |
| Fluosilicate Bath 95 <i>f</i> F                            |                     | C                   |          |             |       |           |              |       | A            |                | A      | D     |            | D     |               |              | A             |       | B       | C                   | D                |         | D        |                          | D                | D     |
| Fluoride Bath 130 <i>f</i> F                               |                     | D                   |          |             |       |           |              |       | A            |                | A      | D     |            | D     |               |              | A             |       | B       | C                   | D                |         | D        |                          |                  | D     |
| Black Chrome Bath 115 <i>f</i> F                           |                     | C                   |          |             |       |           |              |       | A            |                | A      | D     |            | D     |               |              | A             |       | A       | C                   | D                |         | D        |                          |                  | D     |
| Barrel Chrome Bath 95 <i>f</i> F                           |                     | D                   |          |             |       |           |              |       | A            |                | A      | D     |            | D     |               |              | A             |       | A       | C                   | D                |         | D        |                          |                  | D     |
| Copper Plating (Cyanide) Copper Strike Bath 120 <i>f</i> F |                     |                     | A        |             |       |           |              |       |              |                | A      | A     |            |       |               |              |               |       | C       | B                   |                  |         | A        |                          |                  |       |
| Rochelle Salt Bath 150 <i>f</i> F                          |                     | A                   |          |             |       |           |              |       | D            |                | A      | A     |            | A     |               |              | A             |       | D       | A                   | A                |         | B        |                          |                  | C     |

|                                                    |  |   |  |   |  |  |  |   |  |   |   |   |   |  |  |   |  |   |   |   |  |   |  |  |   |
|----------------------------------------------------|--|---|--|---|--|--|--|---|--|---|---|---|---|--|--|---|--|---|---|---|--|---|--|--|---|
| High Speed Bath 180 <i>f</i> F                     |  | A |  |   |  |  |  | D |  | A | A |   | A |  |  | A |  | D | A | A |  | B |  |  | C |
| Copper Plating (Acid) Copper Sulfate Bath R.T.     |  | D |  |   |  |  |  | A |  | A | A |   | D |  |  | A |  | D | A | A |  | A |  |  | D |
| Copper Fluoborate Bath 120 <i>f</i> F              |  | D |  |   |  |  |  | A |  | A | A |   | D |  |  | A |  | D | A | B |  | C |  |  | D |
| Copper (Misc.) Copper Pyrophosphate 140 <i>f</i> F |  | A |  |   |  |  |  | A |  | A | A |   | A |  |  | A |  | B | A | A |  | A |  |  | B |
| Copper (Electroless) 140 <i>f</i> F                |  |   |  | D |  |  |  | A |  | A | A |   | A |  |  | A |  | D | A | D |  | D |  |  | B |
| Gold Plating Cyanide 150 <i>f</i> F                |  | A |  | C |  |  |  | D |  | A | A |   | A |  |  | A |  | B | A | A |  | A |  |  | D |
| Neutral 75 <i>f</i> F                              |  | C |  |   |  |  |  | A |  | A | A |   | A |  |  | A |  | A | A | A |  | A |  |  | A |
| Acid 75 <i>f</i> F                                 |  | C |  |   |  |  |  | A |  | A | A |   | A |  |  | A |  | A | A | A |  | A |  |  | A |
| Indium Sulfamate Plating R.T.                      |  | C |  |   |  |  |  | A |  | A | A |   | D |  |  | A |  | A | A | A |  | A |  |  | A |
| Iron Plating Ferrous Chloride Bath 190 <i>f</i> F  |  | D |  |   |  |  |  | D |  | A | A |   | D |  |  | C |  | A | A | B |  | D |  |  | D |
| Ferrous Sulfate Bath 150 <i>f</i> F                |  | C |  |   |  |  |  | D |  | A | A |   | D |  |  | A |  | A | A | A |  | B |  |  | D |
| Ferrous Am. Sulfate Bath 150 <i>f</i> F            |  | C |  |   |  |  |  | D |  | A | A |   | D |  |  | A |  | A | A | A |  | B |  |  | D |
| Sulfate-Chloride Bath 160 <i>f</i> F               |  | D |  |   |  |  |  | D |  | A | A |   | D |  |  | A |  | A | A | B |  | C |  |  | D |
| Fluoborate Bath 145 <i>f</i> F                     |  | D |  |   |  |  |  | D |  | A | A |   | D |  |  | A |  | D | A | B |  | C |  |  | D |
| Sulfamate 140 <i>f</i> F                           |  | D |  |   |  |  |  | A |  | A | A |   | D |  |  | A |  | A | A | A |  | A |  |  | A |
| Lead Fluoborate Plating                            |  | C |  |   |  |  |  | A |  | A | A |   | D |  |  | A |  | D | A | B |  | C |  |  | A |
| Nickel Plating Watts Type 115 - 160 <i>f</i> F     |  | C |  |   |  |  |  | D |  | A | A |   | A |  |  | A |  | A | A | A |  | A |  |  | D |
| High Chloride 130 - 160 <i>f</i> F                 |  | C |  |   |  |  |  | D |  | A | A |   | D |  |  | A |  | A | A | A |  | B |  |  | D |
| Fluoborate 100 - 170 <i>f</i> F                    |  | C |  | D |  |  |  | D |  | A | A |   | D |  |  | A |  | D | A | B |  | C |  |  | D |
| Sulfamate 140 <i>f</i> F                           |  | C |  |   |  |  |  | A |  | A | A |   | A |  |  | A |  | A | A | A |  | A |  |  | A |
| Electroless 200 <i>f</i> F                         |  |   |  |   |  |  |  | D |  | A | D |   | D |  |  | D |  | A | A | D |  | D |  |  | B |
| Rhodium Plating 120 <i>f</i> F                     |  | D |  |   |  |  |  | A |  | A | A | D | D |  |  | A |  | A | A | A |  | B |  |  | A |
| Silver Plating 80 - 120 <i>f</i> F                 |  | A |  |   |  |  |  | A |  | A | A |   | A |  |  | A |  | B | A | A |  | A |  |  | A |
| Tin-Fluoborate Plating 100 <i>f</i> F              |  | C |  |   |  |  |  | A |  | A | A |   | D |  |  | A |  | D | A | B |  | C |  |  | A |
| Tine-Lead Plating 100 <i>f</i> F                   |  | C |  |   |  |  |  | A |  | A | A |   | D |  |  | A |  | D | A | B |  | C |  |  | A |

|                                         |   |   |   |   |  |   |   |   |   |   |   |   |   |   |   |   |  |   |   |   |   |   |  |   |   |   |   |
|-----------------------------------------|---|---|---|---|--|---|---|---|---|---|---|---|---|---|---|---|--|---|---|---|---|---|--|---|---|---|---|
| Zinc Plating<br>Acid Chloride<br>140f F |   | D |   |   |  |   |   |   | A |   | A | A |   | D |   |   |  | A |   | A | A | A |  | A |   |   | A |
| Acid Sulfate<br>Bath 150f F             |   | C |   |   |  |   |   |   | D |   | A | A |   | D |   |   |  | A |   | A | A | A |  | B |   |   | D |
| Acid<br>Fluoborate<br>Bath R.T.         |   |   |   |   |  |   |   |   | A |   | A | A |   | D |   |   |  | A |   | D | A | B |  | C |   |   | A |
| Alkaline<br>Cyanide Bath<br>R.T.        |   |   |   |   |  |   |   |   | A |   | A | A |   | A |   |   |  | A |   | D | A | A |  | A |   |   | A |
| Potash                                  | A |   | C | C |  | B |   |   | A | B |   | A | B | A |   | B |  | A |   | A | A | A |  | B |   | B | A |
| Potassium<br>Bicarbonate                | A |   | C | B |  | D |   | A | A |   | A | A | C | A | C | B |  | A | A | A | A | A |  | A |   | B | A |
| Potassium<br>Bromide                    | A |   | C | C |  | D | D | A | A |   | A | A | A | C |   | B |  | A | C | A | A | A |  | A | A | B | A |

A - No effect - Excellent 1. P.V.C. - Satisfactory to 72f F.  
B - Minor effect - Good 2. Polypropylene - Satisfactory to 72f F.  
C - Moderate effect - Fair 3. Polypropylene - Satisfactory to 120f F.  
D - Severe effect - Not recommended 4. Buna-N - Satisfactory for "O" Rings  
5. Polyacetal - Satisfactory to 72f F.  
6. Ceramag - Satisfactory to 72f F.

|                                       | 304<br>Stainless<br>Steel | 316<br>Stainless<br>Steel | Aluminum | Cast<br>Bronze | Brass | Cast<br>Iron | Carbon<br>Steel | Kynar | PVC<br>(Type<br>1) | Tygon<br>(E-<br>3606) | Teflon | Noryl | Polyacetal | Nylon | Cycolac<br>(ABS) | Polyethylene | Polypropylene | Ryton | Ceramic | floroelastomers<br>(r) | Buna N<br>(Nitrile) | Silicon | Neoprene | Ethylene<br>Propylene<br>(EPM) | Rubber<br>(Natural) | Epoxy |
|---------------------------------------|---------------------------|---------------------------|----------|----------------|-------|--------------|-----------------|-------|--------------------|-----------------------|--------|-------|------------|-------|------------------|--------------|---------------|-------|---------|------------------------|---------------------|---------|----------|--------------------------------|---------------------|-------|
| Potassium<br>Carbonate                | A                         |                           | C        | C              |       | B            | B               | A     | A                  | B                     | A      | A     | B          | A     |                  | B            | A             | A     | A       | A                      | B                   |         | A        |                                | B                   | A     |
| Potassium<br>Chlorate                 | A                         | A                         | B        | B              |       | B            | B               | A     | A                  | B                     | A      | A     | B          | D     |                  | B            | A             | A     | A       | A                      | A                   |         | A        |                                | B                   | A     |
| Potassium<br>Chloride                 | A                         | A                         | B        | C              | C     | B            | B               | A     | A                  | A                     | A      | A     | A          | B     | C                | B            | A             | A     | A       | A                      | A                   |         | A        | A                              | A                   | A     |
| Potassium<br>Chromate                 |                           | B                         | A        | A              |       | A            |                 |       | A                  |                       |        | A     | C          |       |                  | B            |               | A     | D       | A                      | A                   |         | A        |                                | B                   | C     |
| Potassium<br>Cyanide<br>Solutions     | A                         | B                         | D        | D              |       | B            | B               | A     | A                  |                       | A      | A     | C          | A     |                  | B            | A             | A     | A       | B                      | A                   |         | A        | A                              | A                   | A     |
| Potassium<br>Dichromate               | A                         | A                         | A        | C              |       | B            | C               | A     | A                  |                       | A      | A     | C          | D     |                  | B            | A             | A     | A       | B                      | A                   |         | A        | A                              | A                   | A     |
| Potassium<br>Ferrocyanide             | A                         |                           | C        | A              |       |              | C               |       | A                  |                       | A      |       |            | A     |                  | A            |               |       |         |                        | D                   |         |          |                                | A                   | A     |
| Potassium<br>Hydroxide<br>(50%)       | B                         | B                         | D        | D              | D     | C            | A               | D     | A                  | B                     | A      | A     | D          | A     | C                | B            | A             | A     | D       | D                      | B                   | C       | A        | A                              | C                   | A     |
| Potassium<br>Nitrate                  | A                         | B                         | B        | B              |       |              | B               | A     | A                  | C                     | A      | A     | B          | C     |                  | B            | A             | C     | A       | B                      | A                   |         | A        | A                              | A                   | A     |
| Potassium<br>Permanganate             | A                         | B                         | B        | B              |       | B            | B               | A     | A                  |                       | A      | A     | C          | D     | C                | B            | B             | A     | A       | B                      | A                   |         | A        |                                | B                   | B     |
| Potassium<br>Sulfate                  | A                         | B                         | A        | B              | B     | B            | B               | A     | A                  | A                     | A      | A     | B          | C     |                  | B            | A             | A     | A       | A                      | A                   | C       | A        | A                              | C                   | A     |
| Potassium<br>Sulfide                  | A                         |                           | B        | B              |       | B            | B               |       | A                  |                       | A      |       |            |       |                  |              |               |       |         |                        | A                   |         |          |                                |                     |       |
| Propane<br>(Liquified) <sup>1 2</sup> | A                         |                           | A        | A              | A     |              | B               |       | D                  |                       | A      | D     | A          | A     |                  |              | D             |       | A       | A                      | A                   | D       | B        | D                              | D                   | A     |
| Propylene<br>Glycol                   | B                         |                           | A        | B              |       | B            | B               |       |                    |                       | A      |       | B          | B     | B                | B            |               |       | A       | A                      | A                   |         | C        |                                |                     | A     |
| Pyridine                              | C                         |                           | B        |                |       | B            | A               | D     |                    | D                     | A      | D     | D          |       |                  | C            | B             | A     | A       | D                      | D                   |         | D        | B                              | D                   | A     |
| Pyrogallic Acid                       | A                         | A                         | B        | B              |       | B            | B               |       | A                  |                       | A      |       | D          | A     |                  |              |               |       | A       | A                      | A                   |         |          |                                |                     | A     |
| Rosins                                | A                         | A                         | A        | A              | C     |              | C               |       |                    |                       | A      |       | B          | A     |                  |              | A             |       | A       |                        | A                   |         |          |                                |                     | A     |
| Rum                                   | A                         |                           |          |                |       |              |                 |       | A                  |                       |        | A     | A          | A     |                  |              | A             |       | A       | A                      | A                   |         | A        |                                |                     | A     |

|                                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|--------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Rust Inhibitors                      | A |   |   | A |   | A |   |   |   |   |   | A |   |   |   | A |   | A | A | A |   | C |   |   | A |
| Salad Dressing                       | A |   | B | B |   | D |   |   | A |   |   | A | A | A |   |   | A |   | A | A | A |   |   |   | A |
| Sea Water                            | A | C | C | C |   |   | D |   | A |   | A | A | A | A |   | B | A |   | A | A | A | B | B | A | A |
| Shellac (Bleached)                   | A |   | A | A | B | B | A |   |   |   | A |   | A | A |   |   | A |   | A |   | A |   |   |   | A |
| Shellac (Orange)                     | A |   | A | A | C | C | A |   |   |   | A |   | A | A |   |   | A |   | A |   | A |   |   |   | A |
| Silicone                             | B |   | B | A |   |   |   |   |   |   |   | A | A | A |   |   | A |   | A | A | A | B | A | A | A |
| Silver Bromide                       | C | C | D |   |   |   |   |   |   |   |   | A | C |   |   |   |   |   |   |   |   |   |   |   | A |
| Silver Nitrate                       | A | B | D | D |   | D | D | A | A | B | A | A | C | A |   | B | A |   | A | A | C |   | A | C | A |
| Soap Solutions <sup>1</sup>          | A | A | C | B |   | B | A |   | B | B | A | A | A | A |   | B | A | A | A | A | A | B | B |   | C |
| Soda Ash (See Sodium Carbonate)      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Sodium Acetate                       | A | A | B | B |   | C | C | A | A |   | A | A | B | A |   | B | A |   | A | D | D |   | C |   | A |
| Sodium Aluminate                     |   |   | C | B |   |   | C |   |   |   | A | A | B | A |   |   |   | A | A | A | A |   | A | A | B |
| Sodium Bicarbonate                   | A | A | A | B | A | C | C | A | A | B | A | A | B | A | B | B | A | A | A | A | A | C | A | A | A |
| Sodium Bisulfate                     | A |   | D | C | C | D | D | A | A | B | A | A | B | C | C | B | A | A | A | B | A | C | A |   | A |
| Sodium Bisulfite                     | A |   | A | C |   | D |   | A | A | B | A | A | B | D | B | B | A | A | A | A | A | C | A |   | A |
| Sodium Borate                        | A |   | C | A |   | C | C |   | C |   | A |   |   | A |   | A |   |   | A |   | B | A |   |   |   |
| Sodium Carbonate                     | A | B | C | B | B | B | B | A | A | B | A | A | A | A | C | B | A | A | A | A | A |   | A | A | A |
| Sodium Chlorate                      | A |   | B | B |   |   | C | A | A | B | A | A | D | A |   | B | A | A | A | A | D |   | A |   | A |
| Sodium Chloride                      | A | C | C | B | C | B | C | A | A | B | A | A | A | A | B | B | A | A | A | A | A | C | A | A | B |
| Sodium Chromate                      | A | A | D | B |   | B | B |   |   |   | A | A | D | A |   |   | A | A | B | B | A |   | A |   | C |
| Sodium Cyanide                       | A |   | D | D | D | B | B | A | A |   | A | A | D | C |   | B | A | A | A | A | A | D | A | A | A |
| Sodium Fluoride                      | C |   | C | C |   | D | D |   | D | D | A |   |   | A |   | C |   |   |   | B | D |   | D |   | D |
| Sodium Hydrosulfite                  |   |   | A | C |   |   |   |   | C | A | A |   |   | A |   |   |   |   | A | A |   |   | A |   | A |
| Sodium Hydroxide/ Caustic Soda (20%) | A | A | D | C | D | A |   | A | A | B | A | A | D | C | C | B | A | A | D | A | A | D | B | A | A |
| Sodium Hydroxide/ Caustic Soda (50%) | A | B | D | C | D | B |   | D | A | B | A | A | D | C | C | C | A | B | D | D | D | D | C |   | A |
| Sodium Hydroxide/ Caustic Soda (80%) | A | D | D | C | D | C |   |   | A | B | A | A | D | C | C | C | A | B | D | B | D | D | C |   | B |

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B - Minor effect - Good 2. Polypropylene - Satisfactory to 72f F.  
C - Moderate effect - Fair 3. Polypropylene - Satisfactory to 120f F.  
D - Severe effect - Not recommended 4. Buna-N - Satisfactory for "O" Rings  
5. Polyacetal - Satisfactory to 72f F.  
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|                                                         | 304<br>Stainless<br>Steel | 316<br>Stainless<br>Steel | Aluminum | Cast<br>Bronze | Brass | Cast<br>Iron | Carbon<br>Steel | Kynar | PVC<br>(Type<br>1) | Tygon<br>(E-<br>3606) | Teflon | Noryl | Polyacetal | Nylon | Cyclocac<br>(ABS) | Polyethylene | Polypropylene | Ryton | Ceramic | floroelastomers<br>(r) | Buna N<br>(Nitrile) | Silicon | Neoprene | Ethylene<br>Propylene<br>(EPM) | Rubber<br>(Natural) | Epoxy |
|---------------------------------------------------------|---------------------------|---------------------------|----------|----------------|-------|--------------|-----------------|-------|--------------------|-----------------------|--------|-------|------------|-------|-------------------|--------------|---------------|-------|---------|------------------------|---------------------|---------|----------|--------------------------------|---------------------|-------|
| Sodium<br>Hypochlorite/<br>Bleach <sup>3</sup> (to 20%) | C                         | C                         | C        | D              | D     | D            |                 |       | A                  | B                     | A      | A     | D          | A     |                   | B            | C             | C     | A       | A                      | C                   | D       | D        | B                              | C                   | B     |
| Sodium<br>Hypochlorite/<br>Bleach                       |                           | D                         | D        | D              |       | D            | D               | A     | A                  |                       | A      | A     |            | A     |                   |              | C             | C     | D       | B                      | B                   | C       | A        |                                |                     | A     |
| Sodium<br>Hyposulfate                                   | A                         | A                         | D        | D              |       |              |                 |       |                    |                       | A      |       |            |       |                   |              |               |       |         |                        |                     |         | C        |                                | C                   | C     |
| Sodium<br>Metaphosphate <sup>2</sup>                    |                           | A                         | A        | C              | C     | B            | B               |       |                    |                       | A      |       | B          | A     |                   |              | D             |       | A       | A                      | A                   |         | B        | A                              | A                   | A     |
| Sodium<br>Metasilicate                                  |                           | A                         | B        | B              |       | C            | C               |       |                    |                       | A      |       | D          |       |                   |              |               |       |         | A                      | A                   | D       | A        |                                |                     | A     |
| Sodium Nitrate                                          | A                         | A                         | A        | B              | C     | A            | B               | A     | A                  | B                     | A      | A     | B          | A     |                   | B            | A             |       | A       | D                      | C                   | D       | B        | A                              | C                   | A     |
| Sodium<br>Perborate                                     |                           | C                         | B        | C              | C     | B            | B               |       |                    |                       | A      | A     | B          | A     |                   |              | A             |       | A       | A                      | B                   | D       | B        | A                              | C                   | A     |
| Sodium Peroxide                                         | A                         | A                         | C        | C              | C     | D            | C               |       | A                  |                       | A      |       | D          | D     |                   |              |               |       | A       | A                      | C                   | D       | B        | A                              | C                   | A     |
| Sodium<br>Polyphosphate<br>(Mono, Di,<br>Tribasic)      | A                         | A                         | D        | C              |       |              |                 |       |                    |                       | A      | A     | B          |       |                   |              |               |       | A       | A                      | A                   |         | D        | A                              | A                   | A     |
| Sodium Silicate                                         | A                         | B                         | C        | C              | C     |              | B               |       | A                  | B                     | A      | A     | C          | A     |                   |              | A             |       | A       | A                      | A                   |         | A        | A                              | A                   | A     |
| Sodium Sulfate                                          | A                         | A                         | B        | B              | B     | A            | B               |       | A                  |                       | A      | A     | B          | A     |                   | B            | A             | A     | A       | A                      | A                   |         | A        | A                              | C                   | A     |
| Sodium Sulfide                                          | A                         | B                         | D        | D              | D     | A            | B               |       | A                  | B                     | A      | A     | B          | A     |                   | B            | A             | A     | A       | A                      | C                   |         | A        | A                              | C                   | A     |
| Sodium Sulfit                                           | C                         | C                         | C        | C              |       | A            |                 |       | A                  | A                     | A      |       |            | D     |                   | A            |               |       | A       | A                      | A                   |         | A        |                                | A                   | A     |
| Sodium<br>Tetraborate                                   |                           | A                         |          |                |       |              |                 |       | A                  |                       |        | A     | B          |       |                   |              |               |       | A       | A                      | A                   |         |          |                                |                     | A     |
| Sodium<br>Thiosulphate<br>("Hypo")                      | A                         | A                         | B        | D              | D     | C            | B               |       | A                  |                       | A      | A     | C          | A     |                   |              | A             | A     | A       | A                      | B                   |         | A        | A                              | C                   | A     |
| Sorghum                                                 | A                         | A                         |          |                |       | A            |                 |       |                    |                       |        |       | A          | A     |                   |              |               |       | A       | A                      | A                   |         | A        |                                |                     | A     |
| Soy Sauce                                               | A                         | A                         | A        | A              |       | D            |                 |       |                    |                       |        | A     | A          | A     |                   |              |               |       | A       | A                      | A                   |         | A        |                                | D                   | A     |
| Stannic Chloride                                        | D                         | D                         | D        | D              |       | D            | D               | A     | A                  |                       | A      | A     | C          | A     |                   | B            | A             |       | A       | A                      | A                   | D       | A        | A                              | A                   | A     |
| Stannic<br>Fluoborate                                   |                           | A                         |          |                |       | D            |                 |       |                    |                       |        | A     | C          |       |                   |              |               |       | A       | A                      | A                   |         | A        |                                |                     | A     |
| Stannous<br>Chloride                                    | D                         | C                         | D        | D              |       | D            | D               |       | A                  | A                     | A      |       |            | D     |                   | A            |               |       |         | B                      | C                   | D       | D        |                                | A                   | A     |
| Starch                                                  | A                         | A                         | A        | B              |       | C            | C               |       | A                  |                       | A      | A     | A          | A     |                   | B            |               |       | A       | A                      | A                   |         | A        |                                |                     | A     |
| Stearic Acid <sup>2</sup>                               | A                         | A                         | B        | C              | C     | C            | C               | A     | A                  | B                     | A      | A     | A          | A     |                   | B            | D             |       | A       | A                      | B                   | D       | B        | B                              | C                   | A     |
| Stoddard Solvent                                        | A                         | A                         | A        | A              | A     | B            | B               | A     | A                  | D                     | A      | D     | A          | A     | B                 | D            | D             | A     | A       | A                      | B                   | D       | D        | D                              | D                   | A     |
| Styrene                                                 | A                         | A                         | A        | A              |       |              | A               |       |                    |                       | A      | A     | A          |       |                   |              |               |       | A       | B                      | D                   | D       | D        | D                              | D                   | A     |
| Sugar (Liquids)                                         | A                         | A                         | A        | A              |       | B            | B               |       |                    |                       | A      | A     | A          | A     | B                 |              | A             |       | A       | A                      | A                   |         | B        |                                | A                   | A     |
| Sulfate Liquors                                         | C                         | C                         | B        | C              |       |              |                 |       |                    |                       |        |       | D          |       |                   |              | A             |       | A       |                        |                     |         | C        |                                |                     | A     |
| Sulfur Chloride                                         | D                         | D                         | D        | C              | D     |              |                 |       | A                  | C                     | A      | A     | D          | A     |                   | A            | D             |       | C       | A                      | D                   |         | D        | D                              | D                   | C     |
| Sulfur Dioxide <sup>2</sup>                             | A                         | A                         | A        | B              |       |              |                 | B     | D                  | B                     | A      | D     | B          | D     | D                 | C            | D             | A     | A       | D                      | D                   | C       | B        | A                              | D                   | A     |
| Sulfur Dioxide<br>(dry)                                 | A                         | A                         | A        | A              | C     | A            | B               |       | D                  |                       | A      |       |            | A     |                   | D            |               |       | A       | D                      |                     |         | D        |                                | D                   | D     |
| Sulfur Trioxide<br>(dry)                                | A                         | C                         | A        | B              |       | B            | B               |       | A                  | B                     | A      | D     | D          | D     |                   |              |               |       | A       | A                      | D                   |         | D        | B                              | C                   | A     |
| Sulfuric Acid (to<br>10%)                               | D                         | C                         | C        | D              | D     | D            |                 | A     | A                  | B                     | A      | A     | D          | D     | B                 | B            | A             | A     | A       | A                      | C                   |         | D        | D                              | C                   | A     |
| Sulfuric Acid<br>(10% - 75%) <sup>2</sup>               | D                         | D                         | D        | D              | D     | D            |                 | A     | A                  | B                     | A      | B     | D          | D     | B                 | C            | A             | B     | A       | A                      | D                   |         | D        | D                              | D                   | B     |



|                              |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sulfuric Acid (75% - 100%)   |   | D |   |   | D |   |   | A | B |   | A | A |   | D |   |   | B | C | A | A | D |   | D |   |   | D |
| Sulfurous Acid               | C | B | C | D |   | D | D |   | A | B | A | A | D | D |   | B | A |   | A | A | C | D | B | B | C | A |
| Sulfuryl Chloride            |   |   |   |   |   |   |   |   | A |   | A |   |   |   |   |   |   |   | A |   |   |   |   |   |   | A |
| Syrup                        | A | A | A | D |   |   |   |   | A |   |   | A | A | A | B |   | A |   | A | A | A |   | B |   | A | A |
| Tallow                       | A | A | A |   |   |   |   |   |   |   |   | A | A | A |   | C |   |   | A | A | A |   |   |   |   | A |
| Tannic Acid                  | A | A | C | B |   | C | C | A | A | B | A | A | B | D |   | B | A |   | A | A | D | C | A | A | A | A |
| Tanning Liquors              | A | A | C | A |   |   |   |   | A | B | A |   | B |   |   |   | A |   | A | A | C |   |   |   |   | A |
| Tartaric Acid                | A | B | C | A | C | D | D | A | A | B | A | A | B | A |   | B | A |   | A | A | D | C | A |   | A | A |
| Tetrachlorethane             |   | A |   |   |   |   |   |   | D |   | A | D | A | A |   |   | A |   | A | A | D |   |   | D | D | A |
| Tetrahydrofuran              | A | A | D | D |   | D | A | D | D |   | A | D | A | A |   | D | C | A | A | D | D |   | D | B | D | A |
| Toluene, Toluol <sup>3</sup> | A | A | A | A | A | A | A | A | D | D | A | D | A | A | D | D | D | A | A | C | D | D | D | D | D | A |
| Tomato Juice                 | A | A | A | C |   | C | C |   |   |   | A | A | B | A | B |   | A | A | A | A | A |   | A |   |   | A |

A - No effect - Excellent 1. P.V.C. - Satisfactory to 72*f* F.

B - Minor effect - Good 2. Polypropylene - Satisfactory to 72*f* F.

C - Moderate effect - Fair 3. Polypropylene - Satisfactory to 120*f* F.

D - Severe effect - Not recommended 4. Buna-N - Satisfactory for "O" Rings

5. Polyacetal - Satisfactory to 72*f* F.

6. Ceramag - Satisfactory to 72*f* F.

|                                                           | 304 Stainless Steel | 316 Stainless Steel | Aluminum | Cast Bronze | Brass | Cast Iron | Carbon Steel | Kynar | PVC (Type 1) | Tygon (E-3606) | Teflon | Noryl | Polyacetal | Nylon | Cycolac (ABS) | Polyethylene | Polypropylene | Ryton | Ceramic | floroelastomers (r) | Buna N (Nitrile) | Silicon | Neoprene | Ethylene Propylene (EPM) | Rubber (Natural) | Epoxy |
|-----------------------------------------------------------|---------------------|---------------------|----------|-------------|-------|-----------|--------------|-------|--------------|----------------|--------|-------|------------|-------|---------------|--------------|---------------|-------|---------|---------------------|------------------|---------|----------|--------------------------|------------------|-------|
| Trichlorethane                                            | C                   | A                   | C        | C           |       | C         |              |       |              |                | A      | D     | A          |       |               |              |               |       | A       | A                   | D                | D       | D        | D                        | D                | A     |
| Trichlorethylene <sup>2</sup>                             | A                   | A                   | B        | B           | A     | C         | B            | A     | D            |                | A      | D     | A          | C     | D             | D            | D             | C     | A       | A                   | D                | D       | D        | D                        | D                | A     |
| Trichloropropane                                          |                     | A                   |          | A           |       |           |              |       |              |                |        | D     | A          |       | D             |              |               |       | A       | A                   | A                |         | A        |                          |                  | A     |
| Tricresylphosphate                                        |                     | A                   |          | A           |       |           |              |       | D            |                | A      | C     | C          |       |               |              |               |       | A       | B                   | D                |         | D        | A                        |                  | A     |
| Triethylamine                                             |                     |                     |          | A           |       |           |              |       | A            |                |        | B     | D          |       |               |              |               |       | A       | A                   | A                | D       | B        |                          |                  | A     |
| Turpentine <sup>3</sup>                                   | A                   | A                   | C        | B           | C     | B         | B            | A     | A            | B              | A      | D     | A          | A     |               | D            | B             | A     | A       | A                   | D                |         | D        | D                        | D                | A     |
| Urine                                                     | A                   | A                   | B        | C           |       | B         |              |       | A            |                |        | A     | A          | A     |               | B            | A             |       | A       | A                   | A                |         | D        | A                        |                  | A     |
| Vegetable Juice                                           | A                   | A                   | A        | C           |       | D         |              |       |              |                |        | A     | A          | A     |               |              |               |       | A       | A                   | A                | B       | D        |                          | D                | A     |
| Vinegar                                                   | A                   | A                   | D        | B           | B     | C         | D            | A     | A            |                | A      | A     | B          | A     | B             | B            | A             | A     | A       | A                   | C                |         | B        | A                        | C                | A     |
| Varnish (Use floroelastomers <sup>(r)</sup> for Aromatic) | A                   | A                   | A        | A           | B     |           | C            |       |              |                | A      | D     | A          | A     |               |              | A             |       | A       | A                   | B                | C       | D        |                          | D                | A     |
| Water, Acid, Mine                                         | A                   | A                   | C        | C           | D     | C         |              |       | A            | B              |        | A     | D          | A     | B             |              | A             | B     | A       | A                   | A                |         | B        |                          | B                | A     |
| Water, Distilled, Lab Grade 7                             | A                   | A                   | B        | A           |       | D         |              |       | A            | B              | A      | A     | A          | A     | A             |              | A             | A     | A       | A                   | A                |         | B        | A                        | A                | A     |
| Water, Fresh                                              | A                   | A                   | A        | A           | C     | B         | D            |       | A            | B              | A      | A     | A          | A     | A             | A            | A             | A     | A       | A                   | A                |         | B        | A                        | A                | A     |
| Water, Salt                                               | A                   | A                   | B        | B           | C     | D         |              |       | A            | B              |        | A     | A          | A     |               |              | A             | A     | A       | A                   | A                |         | B        | A                        | A                | A     |
| Weed Killers                                              | A                   | A                   | C        | C           |       |           |              |       |              |                |        |       | A          | A     |               |              |               |       | A       | A                   | B                |         | C        |                          |                  | A     |
| Whey                                                      | A                   | A                   | B        |             |       |           |              |       |              |                |        |       | A          |       |               |              |               |       | A       | A                   | A                |         |          |                          |                  | A     |
| Whiskey and Wines                                         | A                   | A                   | D        | B           | B     | D         | D            |       | A            |                | A      | A     | A          | A     |               | B            | A             |       | A       | A                   | A                | B       | A        | A                        | A                | A     |
| White Liquor (Pulp Mill)                                  | A                   | A                   |          | D           |       | C         |              |       | A            |                | A      | A     | D          | A     |               |              | A             |       | A       | A                   | A                |         | A        |                          |                  | A     |
| White Water (Paper Mill)                                  | A                   | A                   |          | A           |       |           |              |       |              |                |        |       | B          | A     |               |              | A             |       | A       | A                   |                  |         | A        |                          |                  | A     |
| Xylene <sup>2</sup>                                       | A                   | A                   | A        | A           | A     | A         | B            | A     | D            |                | A      | D     | A          | A     | D             | D            | D             | A     | A       | A                   | D                | D       | D        | D                        | D                | A     |
| Zinc Chloride                                             | D                   | B                   | D        | D           | D     | D         | D            | A     | A            |                | A      | A     | C          | A     |               | B            | A             | A     | A       | A                   | A                |         | A        | A                        | A                | A     |

|                                                                                                                                                                                                                                                                                                                                                                           |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |   |   |   |   |   |   |   |   |   |   |   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|---|---|---|---|---|---|---|---|---|---|---|
| Zinc Hydrosulphite                                                                                                                                                                                                                                                                                                                                                        |   | A | D | D |   | D |   |   |   |   |   | A | C |   |  |   |   | A | A |   | A |   | A | A |   | A |
| Zinc Sulfate                                                                                                                                                                                                                                                                                                                                                              | A | A | D | B | C | C | D | A | C | B | A | A | C | A |  | B | A | A | A | A |   | A | A | C | A |   |
| A - No effect - Excellent 1. P.V.C. - Satisfactory to 72f F.<br>B - Minor effect - Good 2. Polypropylene - Satisfactory to 72f F.<br>C - Moderate effect - Fair 3. Polypropylene - Satisfactory to 120f F.<br>D - Severe effect - Not recommended 4. Buna-N - Satisfactory for "O" Rings<br>5. Polyacetal - Satisfactory to 72f F.<br>6. Ceramag - Satisfactory to 72f F. |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |   |   |   |   |   |   |   |   |   |   |   |